

# SEQUENCE LISTING

<110> CHEN, J I  
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 LIU, T H  
 LU, Z H  
 SHEN, Y  
 <120> Specific Markers for Pancreatic Cancer  
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 <150> EP 02028058.2  
 <151> 2002-12-17  
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 <170> PatentIn version 3.2

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 <222> (1)..(412)  
 <223> Accession NO: as of 06 Dec 2002: P07339  
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Arg Arg Thr Met Ser Glu Val Gly Gly Ser Val Glu Asp Leu Ile Ala
              35              40              45
Lys Gly Pro Val Ser Lys Tyr Ser Gln Ala Val Pro Ala Val Thr Glu
              50              55              60
Gly Pro Ile Pro Glu Val Leu Lys Asn Tyr Met Asp Ala Gln Tyr Tyr
65              70              75              80
Gly Glu Ile Gly Ile Gly Thr Pro Pro Gln Cys Phe Thr Val Val Phe
              85              90              95
Asp Thr Gly Ser Ser Asn Leu Trp Val Pro Ser Ile His Cys Lys Leu
              100             105             110
Leu Asp Ile Ala Cys Trp Ile His His Lys Tyr Asn Ser Asp Lys Ser

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| Ser Thr Tyr Val Lys Asn Gly Thr Ser Phe Asp Ile His Tyr Gly Ser |     |     |
| 130   | 135 | 140 |
| Gly Ser Leu Ser Gly Tyr Leu Ser Gln Asp Thr Val Ser Val Pro Cys |     |     |
| 145   | 150 | 155 |
| Gln Ser Ala Ser Ser Ala Ser Ala Leu Gly Gly Val Lys Val Glu Arg |     |     |
| 165   | 170 | 175 |
| Gln Val Phe Gly Glu Ala Thr Lys Gln Pro Gly Ile Thr Phe Ile Ala |     |     |
| 180   | 185 | 190 |
| Ala Lys Phe Asp Gly Ile Leu Gly Met Ala Tyr Pro Arg Ile Ser Val |     |     |
| 195   | 200 | 205 |
| Asn Asn Val Leu Pro Val Phe Asp Asn Leu Met Gln Gln Lys Leu Val |     |     |
| 210   | 215 | 220 |
| Asp Gln Asn Ile Phe Ser Phe Tyr Leu Ser Arg Asp Pro Asp Ala Gln |     |     |
| 225   | 230 | 235 |
| Pro Gly Gly Glu Leu Met Leu Gly Gly Thr Asp Ser Lys Tyr Tyr Lys |     |     |
| 245   | 250 | 255 |
| Gly Ser Leu Ser Tyr Leu Asn Val Thr Arg Lys Ala Tyr Trp Gln Val |     |     |
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| His Leu Asp Gln Val Glu Val Ala Ser Gly Leu Thr Leu Cys Lys Glu |     |     |
| 275   | 280 | 285 |
| Gly Cys Glu Ala Ile Val Asp Thr Gly Thr Ser Leu Met Val Gly Pro |     |     |
| 290   | 295 | 300 |
| Val Asp Glu Val Arg Glu Leu Gln Lys Ala Ile Gly Ala Val Pro Leu |     |     |
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| Ile Gln Gly Glu Tyr Met Ile Pro Cys Glu Lys Val Ser Thr Leu Pro |     |     |
| 325   | 330 | 335 |
| Ala Ile Thr Leu Lys Leu Gly Gly Lys Gly Tyr Lys Leu Ser Pro Glu |     |     |
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| Asp Tyr Thr Leu Lys Val Ser Gln Ala Gly Lys Thr Leu Cys Leu Ser |     |     |
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| Gly Phe Met Gly Met Asp Ile Pro Pro Pro Ser Gly Pro Leu Trp Ile |     |     |
| 370   | 375 | 380 |
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 <222> (1)..(414)  
 <223> Accession NO: as of 06 Dec 2002: 075874  
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| Met | Ser | Lys | Lys | Ile | Ser | Gly | Gly | Ser | Val | Val | Glu | Met | Gln | Gly | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Met | Thr | Arg | Ile | Ile | Trp | Glu | Leu | Ile | Lys | Glu | Lys | Leu | Ile | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Tyr | Val | Glu | Leu | Asp | Leu | His | Ser | Tyr | Asp | Leu | Gly | Ile | Glu | Asn |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Asp | Ala | Thr | Asn | Asp | Gln | Val | Thr | Lys | Asp | Ala | Ala | Glu | Ala | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Lys | Lys | His | Asn | Val | Gly | Val | Lys | Cys | Ala | Thr | Ile | Thr | Pro | Asp | Glu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Lys | Arg | Val | Glu | Glu | Phe | Lys | Leu | Lys | Gln | Met | Trp | Lys | Ser | Pro | Asn |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Gly | Thr | Ile | Arg | Asn | Ile | Leu | Gly | Gly | Thr | Val | Phe | Arg | Glu | Ala | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Cys | Lys | Asn | Ile | Pro | Arg | Leu | Val | Ser | Gly | Trp | Val | Lys | Pro | Ile |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ile | Ile | Gly | Arg | His | Ala | Tyr | Gly | Asp | Gln | Tyr | Arg | Ala | Thr | Asp | Phe |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Val | Pro | Gly | Pro | Gly | Lys | Val | Glu | Ile | Thr | Tyr | Thr | Pro | Ser | Asp |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Gly | Thr | Gln | Lys | Val | Thr | Tyr | Leu | Val | His | Asn | Phe | Glu | Glu | Gly | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gly | Val | Ala | Met | Gly | Met | Tyr | Asn | Gln | Asp | Lys | Ser | Ile | Glu | Asp | Phe |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Ala | His | Ser | Ser | Phe | Gln | Met | Ala | Leu | Ser | Lys | Gly | Trp | Pro | Leu | Tyr |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Ser | Thr | Lys | Asn | Thr | Ile | Leu | Lys | Lys | Tyr | Asp | Gly | Arg | Phe | Lys |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Ile | Phe | Gln | Glu | Ile | Tyr | Asp | Lys | Gln | Tyr | Lys | Ser | Gln | Phe | Glu |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Ala | Gln | Lys | Ile | Trp | Tyr | Glu | His | Arg | Leu | Ile | Asp | Asp | Met | Val | Ala |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Gln | Ala | Met | Lys | Ser | Glu | Gly | Gly | Phe | Ile | Trp | Ala | Cys | Lys | Asn | Tyr |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 260 |     | 265 |     | 270 |     |     |     |     |     |     |     |     |     |     |
| Asp | Gly | Asp | Val | Gln | Ser | Asp | Ser | Val | Ala | Gln | Gly | Tyr | Gly | Ser | Leu |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Gly | Met | Met | Thr | Ser | Val | Leu | Val | Cys | Pro | Asp | Gly | Lys | Thr | Val | Glu |
|     | 290 |     |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |
| Ala | Glu | Ala | Ala | His | Gly | Thr | Val | Thr | Arg | His | Tyr | Arg | Met | Tyr | Gln |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Lys | Gly | Gln | Glu | Thr | Ser | Thr | Asn | Pro | Ile | Ala | Ser | Ile | Phe | Ala | Trp |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Thr | Arg | Gly | Leu | Ala | His | Arg | Ala | Lys | Leu | Asp | Asn | Asn | Lys | Glu | Leu |
|     | 340 |     |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Phe | Phe | Ala | Asn | Ala | Leu | Glu | Glu | Val | Ser | Ile | Glu | Thr | Ile | Glu |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Ala | Gly | Phe | Met | Thr | Lys | Asp | Leu | Ala | Ala | Cys | Ile | Lys | Gly | Leu | Pro |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Asn | Val | Gln | Arg | Ser | Asp | Tyr | Leu | Asn | Thr | Phe | Glu | Phe | Met | Asp | Lys |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Gly | Glu | Asn | Leu | Lys | Ile | Lys | Leu | Ala | Gln | Ala | Lys | Leu |     |     |
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 <222> (1)..(782)  
 <223> Accession NO: as of 06 Dec 2002: P06396  
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| Met | Ala | Pro | His | Arg | Pro | Ala | Pro | Ala | Leu | Leu | Cys | Ala | Leu | Ser | Leu |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ala | Leu | Cys | Ala | Leu | Ser | Leu | Pro | Val | Arg | Ala | Ala | Thr | Ala | Ser | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Ala | Ser | Gln | Ala | Gly | Ala | Pro | Gln | Gly | Arg | Val | Pro | Glu | Ala | Arg |
|     |     | 35  |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Pro | Asn | Ser | Met | Val | Val | Glu | His | Pro | Glu | Phe | Leu | Lys | Ala | Gly | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Glu | Pro | Gly | Leu | Gln | Ile | Trp | Arg | Val | Glu | Lys | Phe | Asp | Leu | Val | Pro |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| Val | Pro | Thr | Asn | Leu | Tyr | Gly | Asp | Phe | Phe | Thr | Gly | Asp | Ala | Tyr | Val |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |
| Ile | Leu | Lys | Thr | Val | Gln | Leu | Arg | Asn | Gly | Asn | Leu | Gln | Tyr | Asp | Leu |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |
| His | Tyr | Trp | Leu | Gly | Asn | Glu | Cys | Ser | Gln | Asp | Glu | Ser | Gly | Ala | Ala |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Ala | Ile | Phe | Thr | Val | Gln | Leu | Asp | Asp | Tyr | Leu | Asn | Gly | Arg | Ala | Val |  |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Gln | His | Arg | Glu | Val | Gln | Gly | Phe | Glu | Ser | Ala | Thr | Phe | Leu | Gly | Tyr |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Phe | Lys | Ser | Gly | Leu | Lys | Tyr | Lys | Lys | Gly | Gly | Val | Ala | Ser | Gly | Phe |  |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |  |
| Lys | His | Val | Val | Pro | Asn | Glu | Val | Val | Val | Gln | Arg | Leu | Phe | Gln | Val |  |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |
| Lys | Gly | Arg | Arg | Val | Val | Arg | Ala | Thr | Glu | Val | Pro | Val | Ser | Trp | Glu |  |  |  |
|     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |  |
| Ser | Phe | Asn | Asn | Gly | Asp | Cys | Phe | Ile | Leu | Asp | Leu | Gly | Asn | Asn | Ile |  |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |  |
| His | Gln | Trp | Cys | Gly | Ser | Asn | Ser | Asn | Arg | Tyr | Glu | Arg | Leu | Lys | Ala |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |  |  |  |
| Thr | Gln | Val | Ser | Lys | Gly | Ile | Arg | Asp | Asn | Glu | Arg | Ser | Gly | Arg | Ala |  |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |  |
| Arg | Val | His | Val | Ser | Glu | Glu | Gly | Thr | Glu | Pro | Glu | Ala | Met | Leu | Gln |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |
| Val | Leu | Gly | Pro | Lys | Pro | Ala | Leu | Pro | Ala | Gly | Thr | Glu | Asp | Thr | Ala |  |  |  |
|     |     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |  |
| Lys | Glu | Asp | Ala | Ala | Asn | Arg | Lys | Leu | Ala | Lys | Leu | Tyr | Lys | Val | Ser |  |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |  |  |  |
| Asn | Gly | Ala | Gly | Thr | Met | Ser | Val | Ser | Leu | Val | Ala | Asp | Glu | Asn | Pro |  |  |  |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |     |  |  |  |
| Phe | Ala | Gln | Gly | Ala | Leu | Lys | Ser | Glu | Asp | Cys | Phe | Ile | Leu | Asp | His |  |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |  |
| Gly | Lys | Asp | Gly | Lys | Ile | Phe | Val | Trp | Lys | Gly | Lys | Gln | Ala | Asn | Thr |  |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     | 350 |     |     |     |  |  |  |
| Glu | Glu | Arg | Lys | Ala | Ala | Leu | Lys | Thr | Ala | Ser | Asp | Phe | Ile | Thr | Lys |  |  |  |
|     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |  |  |  |
| Met | Asp | Tyr | Pro | Lys | Gln | Thr | Gln | Val | Ser | Val | Leu | Pro | Glu | Gly | Gly |  |  |  |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |  |  |  |
| Glu | Thr | Pro | Leu | Phe | Lys | Gln | Phe | Phe | Lys | Asn | Trp | Arg | Asp | Pro | Asp |  |  |  |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |     |  |  |  |
| Gln | Thr | Asp | Gly | Leu | Gly | Leu | Ser | Tyr | Leu | Ser | Ser | His | Ile | Ala | Asn |  |  |  |

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 405 |     | 410 |     | 415 |
| Val Glu Arg Val Pro Phe Asp Ala Ala Thr Leu His Thr Ser Thr Ala |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |
| Met Ala Ala Gln His Gly Met Asp Asp Asp Gly Thr Gly Gln Lys Gln |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |
| Ile Trp Arg Ile Glu Gly Ser Asn Lys Val Pro Val Asp Pro Ala Thr |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |
| Tyr Gly Gln Phe Tyr Gly Gly Asp Ser Tyr Ile Ile Leu Tyr Asn Tyr |     |     |     |     |     |
| 465   |     | 470 |     | 475 | 480 |
| Arg His Gly Gly Arg Gln Gly Gln Ile Ile Tyr Asn Trp Gln Gly Ala |     |     |     |     |     |
|   | 485 |     | 490 |     | 495 |
| Gln Ser Thr Gln Asp Glu Val Ala Ala Ser Ala Ile Leu Thr Ala Gln |     |     |     |     |     |
|   | 500 |     | 505 |     | 510 |
| Leu Asp Glu Glu Leu Gly Gly Thr Pro Val Gln Ser Arg Val Val Gln |     |     |     |     |     |
|   | 515 |     | 520 |     | 525 |
| Gly Lys Glu Pro Ala His Leu Met Ser Leu Phe Gly Gly Lys Pro Met |     |     |     |     |     |
|   | 530 |     | 535 |     | 540 |
| Ile Ile Tyr Lys Gly Gly Thr Ser Arg Glu Gly Gly Gln Thr Ala Pro |     |     |     |     |     |
| 545   |     | 550 |     | 555 | 560 |
| Ala Ser Thr Arg Leu Phe Gln Val Arg Ala Asn Ser Ala Gly Ala Thr |     |     |     |     |     |
|   | 565 |     | 570 |     | 575 |
| Arg Ala Val Glu Val Leu Pro Lys Ala Gly Ala Leu Asn Ser Asn Asp |     |     |     |     |     |
|   | 580 |     | 585 |     | 590 |
| Ala Phe Val Leu Lys Thr Pro Ser Ala Ala Tyr Leu Trp Val Gly Thr |     |     |     |     |     |
|   | 595 |     | 600 |     | 605 |
| Gly Ala Ser Glu Ala Glu Lys Thr Gly Ala Gln Glu Leu Leu Arg Val |     |     |     |     |     |
|   | 610 |     | 615 |     | 620 |
| Leu Arg Ala Gln Pro Val Gln Val Ala Glu Gly Ser Glu Pro Asp Gly |     |     |     |     |     |
| 625   |     | 630 |     | 635 | 640 |
| Phe Trp Glu Ala Leu Gly Gly Lys Ala Ala Tyr Arg Thr Ser Pro Arg |     |     |     |     |     |
|   | 645 |     | 650 |     | 655 |
| Leu Lys Asp Lys Lys Met Asp Ala His Pro Pro Arg Leu Phe Ala Cys |     |     |     |     |     |
|   | 660 |     | 665 |     | 670 |
| Ser Asn Lys Ile Gly Arg Phe Val Ile Glu Glu Val Pro Gly Glu Leu |     |     |     |     |     |
|   | 675 |     | 680 |     | 685 |
| Met Gln Glu Asp Leu Ala Thr Asp Asp Val Met Leu Leu Asp Thr Trp |     |     |     |     |     |
|   | 690 |     | 695 |     | 700 |
| Asp Gln Val Phe Val Trp Val Gly Lys Asp Ser Gln Glu Glu Glu Lys |     |     |     |     |     |
| 705   |     | 710 |     | 715 | 720 |
| Thr Glu Ala Leu Thr Ser Ala Lys Arg Tyr Ile Glu Thr Asp Pro Ala |     |     |     |     |     |
|   | 725 |     | 730 |     | 735 |

Asn Arg Asp Arg Arg Thr Pro Ile Thr Val Val Lys Gln Gly Phe Glu  
740 745 750  
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<222> (1)..(764)  
<223> Accession NO: as of 06 Dec 2002: P00751  
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Pro Gln Gly Ser Cys Ser Leu Glu Gly Val Glu Ile Lys Gly Gly Ser  
35 40 45  
Phe Arg Leu Leu Gln Glu Gly Gln Ala Leu Glu Tyr Val Cys Pro Ser  
50 55 60  
Gly Phe Tyr Pro Tyr Pro Val Gln Thr Arg Thr Cys Arg Ser Thr Gly  
65 70 75 80  
Ser Trp Ser Thr Leu Lys Thr Gln Asp Gln Lys Thr Val Arg Lys Ala  
85 90 95  
Glu Cys Arg Ala Ile His Cys Pro Arg Pro His Asp Phe Glu Asn Gly  
100 105 110  
Glu Tyr Trp Pro Arg Ser Pro Tyr Tyr Asn Val Ser Asp Glu Ile Ser  
115 120 125  
Phe His Cys Tyr Asp Gly Tyr Thr Leu Arg Gly Ser Ala Asn Arg Thr  
130 135 140  
Cys Gln Val Asn Gly Arg Trp Ser Gly Gln Thr Ala Ile Cys Asp Asn  
145 150 155 160  
Gly Ala Gly Tyr Cys Ser Asn Pro Gly Ile Pro Ile Gly Thr Arg Lys  
165 170 175  
Val Gly Ser Gln Tyr Arg Leu Glu Asp Ser Val Thr Tyr His Cys Ser

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 180 |     | 185 |     | 190 |
| Arg Gly Leu Thr Leu Arg Gly Ser Gln Arg Arg Thr Cys Gln Glu Gly |     |     |     |     |     |
| 195   |     | 200 |     | 205 |     |
| Gly Ser Trp Ser Gly Thr Glu Pro Ser Cys Gln Asp Ser Phe Met Tyr |     |     |     |     |     |
| 210   |     | 215 |     | 220 |     |
| Asp Thr Pro Gln Glu Val Ala Glu Ala Phe Leu Ser Ser Leu Thr Glu |     |     |     |     |     |
| 225   |     | 230 |     | 235 | 240 |
| Thr Ile Glu Gly Val Asp Ala Glu Asp Gly His Gly Pro Gly Glu Gln |     |     |     |     |     |
|   | 245 |     | 250 |     | 255 |
| Gln Lys Arg Lys Ile Val Leu Asp Pro Ser Gly Ser Met Asn Ile Tyr |     |     |     |     |     |
|   | 260 |     | 265 |     | 270 |
| Leu Val Leu Asp Gly Ser Asp Ser Ile Gly Ala Ser Asn Phe Thr Gly |     |     |     |     |     |
|   | 275 |     | 280 |     | 285 |
| Ala Lys Lys Cys Leu Val Asn Leu Ile Glu Lys Val Ala Ser Tyr Gly |     |     |     |     |     |
|   | 290 |     | 295 |     | 300 |
| Val Lys Pro Arg Tyr Gly Leu Val Thr Tyr Ala Thr Tyr Pro Lys Ile |     |     |     |     |     |
| 305   |     | 310 |     | 315 | 320 |
| Trp Val Lys Val Ser Glu Ala Asp Ser Ser Asn Ala Asp Trp Val Thr |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |
| Lys Gln Leu Asn Glu Ile Asn Tyr Glu Asp His Lys Leu Lys Ser Gly |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |
| Thr Asn Thr Lys Lys Ala Leu Gln Ala Val Tyr Ser Met Met Ser Trp |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |
| Pro Asp Asp Val Pro Pro Glu Gly Trp Asn Arg Thr Arg His Val Ile |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |
| Ile Leu Met Thr Asp Gly Leu His Asn Met Gly Gly Asp Pro Ile Thr |     |     |     |     |     |
| 385   |     | 390 |     | 395 | 400 |
| Val Ile Asp Glu Ile Arg Asp Leu Leu Tyr Ile Gly Lys Asp Arg Lys |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |
| Asn Pro Arg Glu Asp Tyr Leu Asp Val Tyr Val Phe Gly Val Gly Pro |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |
| Leu Val Asn Gln Val Asn Ile Asn Ala Leu Ala Ser Lys Lys Asp Asn |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |
| Glu Gln His Val Phe Lys Val Lys Asp Met Glu Asn Leu Glu Asp Val |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |
| Phe Tyr Gln Met Ile Asp Glu Ser Gln Ser Leu Ser Leu Cys Gly Met |     |     |     |     |     |
| 465   |     | 470 |     | 475 | 480 |
| Val Trp Glu His Arg Lys Gly Thr Asp Tyr His Lys Gln Pro Trp Gln |     |     |     |     |     |
|   | 485 |     | 490 |     | 495 |
| Ala Lys Ile Ser Val Ile Arg Pro Ser Lys Gly His Glu Ser Cys Met |     |     |     |     |     |
|   | 500 |     | 505 |     | 510 |



Gly Ala Val Val Ser Glu Tyr Phe Val Leu Thr Ala Ala His Cys Phe  
 515 520 525  
 Thr Val Asp Asp Lys Glu His Ser Ile Lys Val Ser Val Gly Gly Glu  
 530 535 540  
 Lys Arg Asp Leu Glu Ile Glu Val Val Leu Phe His Pro Asn Tyr Asn  
 545 550 555 560  
 Ile Asn Gly Lys Lys Glu Ala Gly Ile Pro Glu Phe Tyr Asp Tyr Asp  
 565 570 575  
 Val Ala Leu Ile Lys Leu Lys Asn Lys Leu Lys Tyr Gly Gln Thr Ile  
 580 585 590  
 Arg Pro Ile Cys Leu Pro Cys Thr Glu Gly Thr Thr Arg Ala Leu Arg  
 595 600 605  
 Leu Pro Pro Thr Thr Thr Cys Gln Gln Gln Lys Glu Glu Leu Leu Pro  
 610 615 620  
 Ala Gln Asp Ile Lys Ala Leu Phe Val Ser Glu Glu Glu Lys Lys Leu  
 625 630 635 640  
 Thr Arg Lys Glu Val Tyr Ile Lys Asn Gly Asp Lys Lys Gly Ser Cys  
 645 650 655  
 Glu Arg Asp Ala Gln Tyr Ala Pro Gly Tyr Asp Lys Val Lys Asp Ile  
 660 665 670  
 Ser Glu Val Val Thr Pro Arg Phe Leu Cys Thr Gly Gly Val Ser Pro  
 675 680 685  
 Tyr Ala Asp Pro Asn Thr Cys Arg Gly Asp Ser Gly Gly Pro Leu Ile  
 690 695 700  
 Val His Lys Arg Ser Arg Phe Ile Gln Val Gly Val Ile Ser Trp Gly  
 705 710 715 720  
 Val Val Asp Val Cys Lys Asn Gln Lys Arg Gln Lys Gln Val Pro Ala  
 725 730 735  
 His Ala Arg Asp Phe His Ile Asn Leu Phe Gln Val Leu Pro Trp Leu  
 740 745 750  
 Lys Glu Lys Leu Gln Asp Glu Asp Leu Gly Phe Leu  
 325 760

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<223> Accession NO: O43707

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Ser Ala Gly Asn Gly Ala Gly Gly Gly Gly Ser Met Gly Asp Tyr Met  
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Ala Gln Glu Asp Asp Trp Asp Arg Asp Leu Leu Leu Asp Pro Ala Trp  
35 40 45  
Glu Lys Gln Gln Arg Lys Thr Phe Thr Ala Trp Cys Asn Ser His Leu  
50 55 60  
Arg Lys Ala Gly Thr Gln Ile Glu Asn Ile Asp Glu Asp Phe Arg Asp  
65 70 75 80  
Gly Leu Lys Leu Met Leu Leu Leu Glu Val Ile Ser Gly Glu Arg Leu  
85 90 95  
Pro Lys Pro Glu Arg Gly Lys Met Arg Val His Lys Ile Asn Asn Val  
100 105 110  
Asn Lys Ala Leu Asp Phe Ile Ala Ser Lys Gly Val Lys Leu Val Ser  
115 120 125  
Ile Gly Ala Glu Glu Ile Val Asp Gly Asn Ala Lys Met Thr Leu Gly  
130 135 140  
Met Ile Trp Thr Ile Ile Leu Arg Phe Ala Ile Gln Asp Ile Ser Val  
145 150 155 160  
Glu Glu Thr Ser Ala Lys Glu Gly Leu Leu Leu Trp Cys Gln Arg Lys  
165 170 175  
Thr Ala Pro Tyr Lys Asn Val Asn Val Gln Asn Phe His Ile Ser Trp  
180 185 190  
Lys Asp Gly Leu Ala Phe Asn Ala Leu Ile His Arg His Arg Pro Glu  
195 200 205  
Leu Ile Glu Tyr Asp Lys Leu Arg Lys Asp Asp Pro Val Thr Asn Leu  
210 215 220  
Asn Asn Ala Phe Glu Val Ala Glu Lys Tyr Leu Asp Ile Pro Lys Met  
225 230 235 240  
Leu Asp Ala Glu Asp Ile Val Asn Thr Ala Arg Pro Asp Glu Lys Ala  
245 250 255  
Ile Met Thr Tyr Val Ser Ser Phe Tyr His Ala Phe Ser Gly Ala Gln  
260 265 270  
Lys Ala Glu Thr Ala Ala Asn Arg Ile Cys Lys Val Leu Ala Val Asn  
275 280 285  
Gln Glu Asn Glu His Leu Met Glu Asp Tyr Glu Lys Leu Ala Ser Asp  
290 295 300

Leu Leu Glu Trp Ile Arg Arg Thr Ile Pro Trp Leu Glu Asp Arg Val  
 305 310 315 320  
 Pro Gln Lys Thr Ile Gln Glu Met Gln Gln Lys Leu Glu Asp Phe Arg  
 325 330 335  
 Asp Tyr Arg Arg Val His Lys Pro Pro Lys Val Gln Glu Lys Cys Gln  
 340 345 350  
 Leu Glu Ile Asn Phe Asn Thr Leu Gln Thr Lys Leu Arg Leu Ser Asn  
 355 360 365  
 Arg Pro Ala Phe Met Pro Ser Glu Gly Lys Met Val Ser Asp Ile Asn  
 370 375 380  
 Asn Gly Trp Gln His Leu Glu Gln Ala Glu Lys Gly Tyr Glu Glu Trp  
 385 390 395 400  
 Leu Leu Asn Glu Ile Arg Arg Leu Glu Arg Leu Asp His Leu Ala Glu  
 405 410 415  
 Lys Phe Arg Gln Lys Ala Ser Ile His Glu Ala Trp Thr Asp Gly Lys  
 420 425 430  
 Glu Ala Met Leu Lys His Arg Asp Tyr Glu Thr Ala Thr Leu Ser Asp  
 435 440 445  
 Ile Lys Ala Leu Ile Arg Lys His Glu Ala Phe Glu Ser Asp Leu Ala  
 450 455 460  
 Ala His Gln Asp Arg Val Glu Gln Ile Ala Ala Ile Ala Gln Glu Leu  
 465 470 475 480  
 Asn Glu Leu Asp Tyr Tyr Asp Ser His Asn Val Asn Thr Arg Cys Gln  
 485 490 495  
 Lys Ile Cys Asp Gln Trp Asp Ala Leu Gly Ser Leu Thr His Ser Arg  
 500 505 510  
 Arg Glu Ala Leu Glu Lys Thr Glu Lys Gln Leu Glu Ala Ile Asp Gln  
 515 520 525  
 Leu His Leu Glu Tyr Ala Lys Arg Ala Ala Pro Phe Asn Asn Trp Met  
 530 535 540  
 Glu Ser Ala Met Glu Asp Leu Gln Asp Met Phe Ile Val His Thr Ile  
 545 550 555 560  
 Glu Glu Ile Glu Gly Leu Ile Ser Ala His Asp Gln Phe Lys Ser Thr  
 565 570 575  
 Leu Pro Asp Ala Asp Arg Glu Arg Glu Ala Ile Leu Ala Ile His Lys  
 580 585 590  
 Glu Ala Gln Arg Ile Ala Glu Ser Asn His Ile Lys Leu Ser Gly Ser  
 595 600 605  
 Asn Pro Tyr Thr Thr Val Thr Pro Gln Ile Ile Asn Ser Lys Trp Glu  
 610 615 620  
 Lys Val Gln Gln Leu Val Pro Lys Arg Asp His Ala Leu Leu Glu Glu

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| 625   |     | 630 |     | 635 |     | 640 |
| Gln Ser Lys Gln Gln Ser Asn Glu His Leu Arg Arg Gln Phe Ala Ser |     |     |     |     |     |     |
|   | 645 |     | 650 |     | 655 |     |
| Gln Ala Asn Val Val Gly Pro Trp Ile Gln Thr Lys Met Glu Glu Ile |     |     |     |     |     |     |
|   | 660 |     | 665 |     | 670 |     |
| Gly Arg Ile Ser Ile Glu Met Asn Gly Thr Leu Glu Asp Gln Leu Ser |     |     |     |     |     |     |
|   | 675 |     | 680 |     | 685 |     |
| His Leu Lys Gln Tyr Glu Arg Ser Ile Val Asp Tyr Lys Pro Asn Leu |     |     |     |     |     |     |
|   | 690 |     | 695 |     | 700 |     |
| Asp Leu Leu Glu Gln Gln His Gln Leu Ile Gln Glu Ala Leu Ile Phe |     |     |     |     |     |     |
| 705   |     | 710 |     | 715 |     | 720 |
| Asp Asn Lys His Thr Asn Tyr Thr Met Glu His Ile Arg Val Gly Trp |     |     |     |     |     |     |
|   | 725 |     | 730 |     | 735 |     |
| Glu Gln Leu Leu Thr Thr Ile Ala Arg Thr Ile Asn Glu Val Glu Asn |     |     |     |     |     |     |
|   | 740 |     | 745 |     | 750 |     |
| Gln Ile Leu Thr Arg Asp Ala Lys Gly Ile Ser Gln Glu Gln Met Gln |     |     |     |     |     |     |
|   | 755 |     | 760 |     | 765 |     |
| Glu Phe Arg Ala Ser Phe Asn His Phe Asp Lys Asp His Gly Gly Ala |     |     |     |     |     |     |
|   | 770 |     | 775 |     | 780 |     |
| Leu Gly Pro Glu Glu Phe Lys Ala Cys Leu Ile Ser Leu Gly Tyr Asp |     |     |     |     |     |     |
| 785   |     | 790 |     | 795 |     | 800 |
| Val Glu Asn Asp Arg Gln Gly Glu Ala Glu Phe Asn Arg Ile Met Ser |     |     |     |     |     |     |
|   | 805 |     | 810 |     | 815 |     |
| Leu Val Asp Pro Asn His Ser Gly Leu Val Thr Phe Gln Ala Phe Ile |     |     |     |     |     |     |
|   | 820 |     | 825 |     | 830 |     |
| Asp Phe Met Ser Arg Glu Thr Thr Asp Thr Asp Thr Ala Asp Gln Val |     |     |     |     |     |     |
|   | 835 |     | 840 |     | 845 |     |
| Ile Ala Ser Phe Lys Val Leu Ala Gly Asp Lys Asn Phe Ile Thr Ala |     |     |     |     |     |     |
|   | 850 |     | 855 |     | 860 |     |
| Glu Glu Leu Arg Arg Glu Leu Pro Pro Asp Gln Ala Glu Tyr Cys Ile |     |     |     |     |     |     |
| 865   |     | 870 |     | 875 |     | 880 |
| Ala Arg Met Ala Pro Tyr Gln Gly Pro Asp Ala Val Pro Gly Ala Leu |     |     |     |     |     |     |
|   | 885 |     | 890 |     | 895 |     |
| Asp Tyr Lys Ser Phe Ser Thr Ala Leu Tyr Gly Glu Ser Asp Leu     |     |     |     |     |     |     |
|   | 900 |     | 905 |     | 910 |     |

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<211> 683

<212> PRT

<213> Homo sapiens

<220>

<221> Transforming growth factor-beta induced protein IG-H3 precursor

<222> (1)..(683)

<223> Accession NO: as of 06 Dec 2002: Q15582

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Gly Pro Ala Ala Thr Leu Ala Gly Pro Ala Lys Ser Pro Tyr Gln Leu
          20          25          30
Val Leu Gln His Ser Arg Leu Arg Gly Arg Gln His Gly Pro Asn Val
          35          40          45
Cys Ala Val Gln Lys Val Ile Gly Thr Asn Arg Lys Tyr Phe Thr Asn
          50          55          60
Cys Lys Gln Trp Tyr Gln Arg Lys Ile Cys Gly Lys Ser Thr Val Ile
65          70          75          80
Ser Tyr Glu Cys Cys Pro Gly Tyr Glu Lys Val Pro Gly Glu Lys Gly
          85          90          95
Cys Pro Ala Ala Leu Pro Leu Ser Asn Leu Tyr Glu Thr Leu Gly Val
          100         105         110
Val Gly Ser Thr Thr Thr Gln Leu Tyr Thr Asp Arg Thr Glu Lys Leu
          115         120         125
Arg Pro Glu Met Glu Gly Pro Gly Ser Phe Thr Ile Phe Ala Pro Ser
          130         135         140
Asn Glu Ala Trp Ala Ser Leu Pro Ala Glu Val Leu Asp Ser Leu Val
145         150         155         160
Ser Asn Val Asn Ile Glu Leu Leu Asn Ala Leu Arg Tyr His Met Val
          165         170         175
Gly Arg Arg Val Leu Thr Asp Glu Leu Lys His Gly Met Thr Leu Thr
          180         185         190
Ser Met Tyr Gln Asn Ser Asn Ile Gln Ile His His Tyr Pro Asn Gly
          195         200         205
Ile Val Thr Val Asn Cys Ala Arg Leu Leu Lys Ala Asp His His Ala
          210         215         220
Thr Asn Gly Val Val His Leu Ile Asp Lys Val Ile Ser Thr Ile Thr
225         230         235         240
Asn Asn Ile Gln Gln Ile Ile Glu Ile Glu Asp Thr Phe Glu Thr Leu
          245         250         255
Arg Ala Ala Val Ala Ala Ser Gly Leu Asn Thr Met Leu Glu Gly Asn
          260         265         270
Gly Gln Tyr Thr Leu Leu Ala Pro Thr Asn Glu Ala Phe Glu Lys Ile
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|                             |                             |                     |
|-----------------------------|-----------------------------|---------------------|
| 275                         | 280                         | 285                 |
| Pro Ser Glu Thr Leu Asn Arg | Ile Leu Gly Asp             | Pro Glu Ala Leu Arg |
| 290                         | 295                         | 300                 |
| Asp Leu Leu Asn Asn His Ile | Leu Lys Ser Ala Met Cys     | Ala Glu Ala         |
| 305                         | 310                         | 315                 |
| Ile Val Ala Gly Leu Ser Val | Glu Thr Leu Glu Gly Thr Thr | Leu Glu             |
| 325                         | 330                         | 335                 |
| Val Gly Cys Ser Gly Asp Met | Leu Thr Ile Asn Gly Lys     | Ala Ile Ile         |
| 340                         | 345                         | 350                 |
| Ser Asn Lys Asp Ile Leu Ala | Thr Asn Gly Val Ile His Tyr | Ile Asp             |
| 355                         | 360                         | 365                 |
| Glu Leu Leu Ile Pro Asp Ser | Ala Lys Thr Leu Phe Glu     | Leu Ala Ala         |
| 370                         | 375                         | 380                 |
| Glu Ser Asp Val Ser Thr Ala | Ile Asp Leu Phe Arg Gln     | Ala Gly Leu         |
| 385                         | 390                         | 395                 |
| Gly Asn His Leu Ser Gly Ser | Glu Arg Leu Thr Leu Leu     | Ala Pro Leu         |
| 405                         | 410                         | 415                 |
| Asn Ser Val Phe Lys Asp Gly | Thr Pro Pro Ile Asp Ala     | His Thr Arg         |
| 420                         | 425                         | 430                 |
| Asn Leu Leu Arg Asn His Ile | Ile Lys Asp Gln Leu Ala     | Ser Lys Tyr         |
| 435                         | 440                         | 445                 |
| Leu Tyr His Gly Gln Thr Leu | Glu Thr Leu Gly Gly Lys     | Lys Leu Arg         |
| 450                         | 455                         | 460                 |
| Val Phe Val Tyr Arg Asn Ser | Leu Cys Ile Glu Asn Ser     | Cys Ile Ala         |
| 465                         | 470                         | 475                 |
| Ala His Asp Lys Arg Gly Arg | Tyr Gly Thr Leu Phe Thr     | Met Asp Arg         |
| 485                         | 490                         | 495                 |
| Val Leu Thr Pro Pro Met Gly | Thr Val Met Asp Val Leu     | Lys Gly Asp         |
| 500                         | 505                         | 510                 |
| Asn Arg Phe Ser Met Leu Val | Ala Ala Ile Gln Ser Ala     | Gly Leu Thr         |
| 515                         | 520                         | 525                 |
| Glu Thr Leu Asn Arg Glu Gly | Val Tyr Thr Val Phe Ala     | Pro Thr Asn         |
| 530                         | 535                         | 540                 |
| Glu Ala Phe Arg Ala Leu Pro | Pro Arg Glu Arg Ser Arg     | Leu Leu Gly         |
| 545                         | 550                         | 555                 |
| Asp Ala Lys Glu Leu Ala Asn | Ile Leu Lys Tyr His Ile     | Gly Asp Glu         |
| 565                         | 570                         | 575                 |
| Ile Leu Val Ser Gly Gly Ile | Gly Ala Leu Val Arg Leu     | Lys Ser Leu         |
| 580                         | 585                         | 590                 |
| Gln Gly Asp Lys Leu Glu Val | Ser Leu Lys Asn Asn Val     | Val Ser Val         |
| 595                         | 600                         | 605                 |

Asn Lys Glu Pro Val Ala Glu Pro Asp Ile Met Ala Thr Asn Gly Val  
 610 615 620  
 Val His Val Ile Thr Asn Val Leu Gln Pro Pro Ala Asn Arg Pro Gln  
 625 630 635 640  
 Glu Arg Gly Asp Glu Leu Ala Asp Ser Ala Leu Glu Ile Phe Lys Gln  
 645 650 655  
 Ala Ser Ala Phe Ser Arg Ala Ser Gln Arg Ser Val Arg Leu Ala Pro  
 660 665 670  
 Val Tyr Gln Lys Leu Leu Glu Arg Met Lys His  
 325 680

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 <222> (1)..(892)  
 <223> Accession NO: P12814  
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 Glu Asp Trp Asp Arg Asp Leu Leu Leu Asp Pro Ala Trp Glu Lys Gln  
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 Gln Arg Lys Thr Phe Thr Ala Trp Cys Asn Ser His Leu Arg Lys Ala  
 35 40 45  
 Gly Thr Gln Ile Glu Asn Ile Glu Glu Asp Phe Arg Asp Gly Leu Lys  
 50 55 60  
 Leu Met Leu Leu Leu Glu Val Ile Ser Gly Glu Arg Leu Ala Lys Pro  
 65 70 75 80  
 Glu Arg Gly Lys Met Arg Val His Lys Ile Ser Asn Val Asn Lys Ala  
 85 90 95  
 Leu Asp Phe Ile Ala Ser Lys Gly Val Lys Leu Val Ser Ile Gly Ala  
 100 105 110  
 Glu Glu Ile Val Asp Gly Asn Val Lys Met Thr Leu Gly Met Ile Trp  
 115 120 125  
 Thr Ile Ile Leu Arg Phe Ala Ile Gln Asp Ile Ser Val Glu Glu Thr  
 130 135 140  
 Ser Ala Lys Glu Gly Leu Leu Leu Trp Cys Gln Arg Lys Thr Ala Pro

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     | 150 |     | 155 |     | 160 |     |     |     |     |     |     |     |     |     |
| Tyr | Lys | Asn | Val | Asn | Ile | Gln | Asn | Phe | His | Ile | Ser | Trp | Lys | Asp | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Gly | Phe | Cys | Ala | Leu | Ile | His | Arg | His | Arg | Pro | Glu | Leu | Ile | Asp |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Tyr | Gly | Lys | Leu | Arg | Lys | Asp | Asp | Pro | Leu | Thr | Asn | Leu | Asn | Thr | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Phe | Asp | Val | Ala | Glu | Lys | Tyr | Leu | Asp | Ile | Pro | Lys | Met | Leu | Asp | Ala |
|     | 210 |     |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |
| Glu | Asp | Ile | Val | Gly | Thr | Ala | Arg | Pro | Asp | Glu | Lys | Ala | Ile | Met | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Tyr | Val | Ser | Ser | Phe | Tyr | His | Ala | Phe | Ser | Gly | Ala | Gln | Lys | Ala | Glu |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Thr | Ala | Ala | Asn | Arg | Ile | Cys | Lys | Val | Leu | Ala | Val | Asn | Gln | Glu | Asn |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     | 270 |     |     |     |
| Glu | Gln | Leu | Met | Glu | Asp | Tyr | Glu | Lys | Leu | Ala | Ser | Asp | Leu | Leu | Glu |
|     | 275 |     |     |     |     |     | 280 |     |     |     | 285 |     |     |     |     |
| Trp | Ile | Arg | Arg | Thr | Ile | Pro | Trp | Leu | Glu | Asn | Arg | Val | Pro | Glu | Asn |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |
| Thr | Met | His | Ala | Met | Gln | Gln | Lys | Leu | Glu | Asp | Phe | Arg | Asp | Tyr | Arg |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Arg | Leu | His | Lys | Pro | Pro | Lys | Val | Gln | Glu | Lys | Cys | Gln | Leu | Glu | Ile |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Asn | Phe | Asn | Thr | Leu | Gln | Thr | Lys | Leu | Arg | Leu | Ser | Asn | Arg | Pro | Ala |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |
| Phe | Met | Pro | Ser | Glu | Gly | Arg | Met | Val | Ser | Asp | Ile | Asn | Asn | Ala | Trp |
|     | 355 |     |     |     |     |     | 360 |     |     |     | 365 |     |     |     |     |
| Gly | Cys | Leu | Glu | Gln | Val | Glu | Lys | Gly | Tyr | Glu | Glu | Trp | Leu | Leu | Asn |
|     | 370 |     |     |     |     | 375 |     |     |     | 380 |     |     |     |     |     |
| Glu | Ile | Arg | Arg | Leu | Glu | Arg | Leu | Asp | His | Leu | Ala | Glu | Lys | Phe | Arg |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| Gln | Lys | Ala | Ser | Ile | His | Glu | Ala | Trp | Thr | Asp | Gly | Lys | Glu | Ala | Met |
|     |     |     |     | 405 |     |     |     | 410 |     |     |     |     | 415 |     |     |
| Leu | Arg | Gln | Lys | Asp | Tyr | Glu | Thr | Ala | Thr | Leu | Ser | Glu | Ile | Lys | Ala |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |     |     |     |
| Leu | Leu | Lys | Lys | His | Glu | Ala | Phe | Glu | Ser | Asp | Leu | Ala | Ala | His | Gln |
|     | 435 |     |     |     |     |     | 440 |     |     |     | 445 |     |     |     |     |
| Asp | Arg | Val | Glu | Gln | Ile | Ala | Ala | Ile | Ala | Gln | Glu | Leu | Asn | Glu | Leu |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |
| Asp | Tyr | Tyr | Asp | Ser | Pro | Ser | Val | Asn | Ala | Arg | Cys | Gln | Lys | Ile | Cys |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     | 480 |     |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| Asp | Gln | Trp | Asp | Asn | Leu | Gly | Ala | Leu | Thr | Gln | Lys | Arg | Arg | Glu | Ala |  |  |  |
|     |     |     |     | 485 |     |     |     |     |     | 490 |     |     |     | 495 |     |  |  |  |
| Leu | Glu | Arg | Thr | Glu | Lys | Leu | Leu | Glu | Thr | Ile | Asp | Gln | Leu | Tyr | Leu |  |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |  |
| Glu | Tyr | Ala | Lys | Arg | Ala | Ala | Pro | Phe | Asn | Asn | Trp | Met | Glu | Gly | Ala |  |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |  |
| Met | Glu | Asp | Leu | Gln | Asp | Thr | Phe | Ile | Val | His | Thr | Ile | Glu | Glu | Ile |  |  |  |
|     |     | 530 |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |  |
| Gln | Gly | Leu | Thr | Thr | Ala | His | Glu | Gln | Phe | Lys | Ala | Thr | Leu | Pro | Asp |  |  |  |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     |     |     | 560 |  |  |  |
| Ala | Asp | Lys | Glu | Arg | Leu | Ala | Ile | Leu | Gly | Ile | His | Asn | Glu | Val | Ser |  |  |  |
|     |     |     |     | 565 |     |     |     | 570 |     |     |     |     | 575 |     |     |  |  |  |
| Lys | Ile | Val | Gln | Thr | Tyr | His | Val | Asn | Met | Ala | Gly | Thr | Asn | Pro | Tyr |  |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |  |
| Thr | Thr | Ile | Thr | Pro | Gln | Glu | Ile | Asn | Gly | Lys | Trp | Asp | His | Val | Arg |  |  |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |  |
| Gln | Leu | Val | Pro | Arg | Arg | Asp | Gln | Ala | Leu | Thr | Glu | Glu | His | Ala | Arg |  |  |  |
|     |     | 610 |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |  |
| Gln | Gln | His | Asn | Glu | Ser | Val | Arg | Lys | Gln | Phe | Gly | Ala | Gln | Ala | Asn |  |  |  |
| 625 |     |     |     |     | 630 |     |     |     | 635 |     |     |     |     |     | 640 |  |  |  |
| Val | Ile | Gly | Pro | Trp | Ile | Gln | Thr | Lys | Met | Glu | Glu | Ile | Gly | Arg | Ile |  |  |  |
|     |     |     |     | 645 |     |     |     | 650 |     |     |     | 655 |     |     |     |  |  |  |
| Ser | Ile | Glu | Met | His | Gly | Thr | Leu | Glu | Asp | Gln | Leu | Ser | His | Leu | Arg |  |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     | 670 |     |     |     |  |  |  |
| Gln | Tyr | Glu | Lys | Ser | Ile | Val | Asn | Tyr | Lys | Pro | Lys | Ile | Asp | Gln | Leu |  |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |  |
| Glu | Gly | Asp | His | Gln | Leu | Ile | Gln | Glu | Ala | Leu | Ile | Phe | Asp | Asn | Lys |  |  |  |
|     |     | 690 |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |  |
| His | Thr | Asn | Tyr | Thr | Met | Glu | His | Ile | Arg | Val | Gly | Trp | Glu | Gln | Leu |  |  |  |
| 705 |     |     |     |     | 710 |     |     |     | 715 |     |     |     |     |     | 720 |  |  |  |
| Leu | Thr | Thr | Ile | Ala | Arg | Thr | Ile | Asn | Glu | Val | Glu | Asn | Gln | Ile | Leu |  |  |  |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     | 735 |     |     |  |  |  |
| Thr | Arg | Asp | Ala | Lys | Gly | Ile | Ser | Gln | Glu | Gln | Met | Asn | Glu | Phe | Arg |  |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     | 750 |     |     |     |  |  |  |
| Ala | Ser | Phe | Asn | His | Phe | Asp | Arg | Asp | His | Ser | Gly | Thr | Leu | Gly | Pro |  |  |  |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |  |  |
| Glu | Glu | Phe | Lys | Ala | Cys | Leu | Ile | Ser | Leu | Gly | Tyr | Asp | Ile | Gly | Asn |  |  |  |
|     |     | 770 |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |  |  |
| Asp | Pro | Gln | Gly | Glu | Ala | Glu | Phe | Ala | Arg | Ile | Met | Ser | Ile | Val | Asp |  |  |  |
| 785 |     |     |     |     | 790 |     |     |     | 795 |     |     |     |     |     | 800 |  |  |  |
| Pro | Asn | Arg | Leu | Gly | Val | Val | Thr | Phe | Gln | Ala | Phe | Ile | Asp | Phe | Met |  |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|-----|
|     |     |     |     | 805 |     |     |     |     |     | 810 |     |     |     |     | 815 |  |  |  |     |
| Ser | Arg | Glu | Thr | Ala | Asp | Thr | Asp | Thr | Ala | Asp | Gln | Val | Met | Ala | Ser |  |  |  |     |
|     |     |     |     | 820 |     |     |     |     |     | 825 |     |     |     |     | 830 |  |  |  |     |
| Phe | Lys | Ile | Leu | Ala | Gly | Asp | Lys | Asn | Tyr | Ile | Thr | Met | Asp | Glu | Leu |  |  |  |     |
|     |     |     |     | 835 |     |     |     |     |     | 840 |     |     |     |     | 845 |  |  |  |     |
| Arg | Arg | Glu | Leu | Pro | Pro | Asp | Gln | Ala | Glu | Tyr | Cys | Ile | Ala | Arg | Met |  |  |  |     |
|     |     |     |     | 850 |     |     |     |     |     | 855 |     |     |     |     | 860 |  |  |  |     |
| Ala | Pro | Tyr | Thr | Gly | Pro | Asp | Ser | Val | Pro | Gly | Ala | Leu | Asp | Tyr | Met |  |  |  |     |
|     |     |     |     | 865 |     |     |     |     |     | 870 |     |     |     |     | 875 |  |  |  | 880 |
| Ser | Phe | Ser | Thr | Ala | Leu | Tyr | Gly | Glu | Ser | Asp | Leu |     |     |     |     |  |  |  |     |
|     |     |     |     | 325 |     |     |     |     |     | 890 |     |     |     |     |     |  |  |  |     |

<210> 8  
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 <223> Accession NO: P05215  
 <400> 8

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|----|
| Met | Arg | Glu | Cys | Ile | Ser | Val | His | Val | Gly | Gln | Ala | Gly | Val | Gln | Met |  |  |  |    |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |  |    |
| Gly | Asn | Ala | Cys | Trp | Glu | Leu | Tyr | Cys | Leu | Glu | His | Gly | Ile | Gln | Pro |  |  |  |    |
|     |     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |  |  |  |    |
| Asp | Gly | Gln | Met | Pro | Ser | Asp | Lys | Thr | Ile | Gly | Gly | Gly | Asp | Asp | Ser |  |  |  |    |
|     |     |     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |  |  |  |    |
| Phe | Thr | Thr | Phe | Phe | Cys | Glu | Thr | Gly | Ala | Gly | Lys | His | Val | Pro | Arg |  |  |  |    |
|     |     |     |     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |  |  |  |    |
| Ala | Val | Phe | Val | Asp | Leu | Glu | Pro | Thr | Val | Ile | Asp | Glu | Ile | Arg | Asn |  |  |  |    |
|     |     |     |     | 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |  |  |  | 80 |
| Gly | Pro | Tyr | Arg | Gln | Leu | Phe | His | Pro | Glu | Gln | Leu | Ile | Thr | Gly | Lys |  |  |  |    |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |    |
| Glu | Asp | Ala | Ala | Asn | Asn | Tyr | Ala | Arg | Gly | His | Tyr | Thr | Ile | Gly | Lys |  |  |  |    |
|     |     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |  |  |  |    |
| Glu | Ile | Ile | Asp | Pro | Val | Leu | Asp | Arg | Ile | Arg | Lys | Leu | Ser | Asp | Gln |  |  |  |    |
|     |     |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |  |  |  |    |
| Cys | Thr | Gly | Leu | Gln | Gly | Phe | Leu | Val | Phe | His | Ser | Phe | Gly | Gly | Gly |  |  |  |    |
|     |     |     |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |  |  |  |    |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Gly | Ser | Gly | Phe | Thr | Ser | Leu | Leu | Met | Glu | Arg | Leu | Ser | Val | Asp | 145 | 150 | 155 | 160 |
| Tyr | Gly | Lys | Lys | Ser | Lys | Leu | Glu | Phe | Ser | Ile | Tyr | Pro | Ala | Pro | Gln | 165 | 170 | 175 |     |
| Val | Ser | Thr | Ala | Val | Val | Glu | Pro | Tyr | Asn | Ser | Ile | Leu | Thr | Thr | His | 180 | 185 | 190 |     |
| Thr | Thr | Leu | Glu | His | Ser | Asp | Cys | Ala | Phe | Met | Val | Asp | Asn | Glu | Ala | 195 | 200 | 205 |     |
| Ile | Tyr | Asp | Ile | Cys | Arg | Arg | Asn | Leu | Asp | Ile | Glu | Arg | Pro | Thr | Tyr | 210 | 215 | 220 |     |
| Thr | Asn | Leu | Asn | Arg | Leu | Ile | Ser | Gln | Ile | Val | Ser | Ser | Ile | Thr | Ala | 225 | 230 | 235 | 240 |
| Ser | Leu | Arg | Phe | Asp | Gly | Ala | Leu | Asn | Val | Asp | Leu | Thr | Glu | Phe | Gln | 245 | 250 | 255 |     |
| Thr | Asn | Leu | Val | Pro | Tyr | Pro | Arg | Ile | His | Phe | Pro | Leu | Ala | Thr | Tyr | 260 | 265 | 270 |     |
| Ala | Pro | Val | Ile | Ser | Ala | Glu | Lys | Ala | Tyr | His | Glu | Gln | Leu | Ser | Val | 275 | 280 | 285 |     |
| Ala | Glu | Ile | Thr | Asn | Ala | Cys | Phe | Glu | Pro | Ala | Asn | Gln | Met | Val | Lys | 290 | 295 | 300 |     |
| Cys | Asp | Pro | Arg | His | Gly | Lys | Tyr | Met | Ala | Cys | Cys | Leu | Leu | Tyr | Arg | 305 | 310 | 315 | 320 |
| Gly | Asp | Val | Val | Pro | Lys | Asp | Val | Asn | Ala | Ala | Ile | Ala | Ala | Ile | Lys | 325 | 330 | 335 |     |
| Thr | Lys | Arg | Ser | Ile | Gln | Phe | Val | Asp | Trp | Cys | Pro | Thr | Gly | Phe | Lys | 340 | 345 | 350 |     |
| Val | Gly | Ile | Asn | Tyr | Gln | Pro | Pro | Thr | Val | Val | Pro | Gly | Gly | Asp | Leu | 355 | 360 | 365 |     |
| Ala | Lys | Val | Gln | Arg | Ala | Val | Cys | Met | Leu | Ser | Asn | Thr | Thr | Ala | Ile | 370 | 375 | 380 |     |
| Ala | Glu | Ala | Trp | Ala | Arg | Leu | Asp | His | Lys | Phe | Asp | Leu | Met | Tyr | Ala | 385 | 390 | 395 | 400 |
| Lys | Arg | Ala | Phe | Val | His | Trp | Tyr | Val | Gly | Glu | Gly | Met | Glu | Glu | Gly | 405 | 410 | 415 |     |
| Glu | Phe | Ser | Glu | Ala | Arg | Glu | Asp | Met | Ala | Ala | Leu | Glu | Lys | Asp | Tyr | 420 | 425 | 430 |     |
| Glu | Glu | Val | Gly | Ile | Asp | Ser | Tyr | Glu | Asp | Glu | Asp | Glu | Gly | Glu | Glu | 435 | 440 | 445 |     |

<210> 9

<211> 2647  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Filamin A  
 <222> (1)..(2647)  
 <223> Accession NO: P21333  
 <400> 9

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ser | Ser | His | Ser | Arg | Ala | Gly | Gln | Ser | Ala | Ala | Gly | Ala | Ala | 1   | 5   | 10  | 15  |
| Pro | Gly | Gly | Gly | Val | Asp | Thr | Arg | Asp | Ala | Glu | Met | Pro | Ala | Thr | Glu | 20  | 25  | 30  |     |
| Lys | Asp | Leu | Ala | Glu | Asp | Ala | Pro | Trp | Lys | Lys | Ile | Gln | Gln | Asn | Thr | 35  | 40  | 45  |     |
| Phe | Thr | Arg | Trp | Cys | Asn | Glu | His | Leu | Lys | Cys | Val | Ser | Lys | Arg | Ile | 50  | 55  | 60  |     |
| Ala | Asn | Leu | Gln | Thr | Asp | Leu | Ser | Asp | Gly | Leu | Arg | Leu | Ile | Ala | Leu | 65  | 70  | 75  | 80  |
| Leu | Glu | Val | Leu | Ser | Gln | Lys | Lys | Met | His | Arg | Lys | His | Asn | Gln | Arg | 85  | 90  | 95  |     |
| Pro | Thr | Phe | Arg | Gln | Met | Gln | Leu | Glu | Asn | Val | Ser | Val | Ala | Leu | Glu | 100 | 105 | 110 |     |
| Phe | Leu | Asp | Arg | Glu | Ser | Ile | Lys | Leu | Val | Ser | Ile | Asp | Ser | Lys | Ala | 115 | 120 | 125 |     |
| Ile | Val | Asp | Gly | Asn | Leu | Lys | Leu | Ile | Leu | Gly | Leu | Ile | Trp | Thr | Leu | 130 | 135 | 140 |     |
| Ile | Leu | His | Tyr | Ser | Ile | Ser | Met | Pro | Met | Trp | Asp | Glu | Glu | Glu | Asp | 145 | 150 | 155 | 160 |
| Glu | Glu | Ala | Lys | Lys | Gln | Thr | Pro | Lys | Gln | Arg | Leu | Leu | Gly | Trp | Ile | 165 | 170 | 175 |     |
| Gln | Asn | Lys | Leu | Pro | Gln | Leu | Pro | Ile | Thr | Asn | Phe | Ser | Arg | Asp | Trp | 180 | 185 | 190 |     |
| Gln | Ser | Gly | Arg | Ala | Leu | Gly | Ala | Leu | Val | Asp | Ser | Cys | Ala | Pro | Gly | 195 | 200 | 205 |     |
| Leu | Cys | Pro | Asp | Trp | Asp | Ser | Trp | Asp | Ala | Ser | Lys | Pro | Val | Thr | Asn | 210 | 215 | 220 |     |
| Ala | Arg | Glu | Ala | Met | Gln | Gln | Ala | Asp | Asp | Trp | Leu | Gly | Ile | Pro | Gln | 225 | 230 | 235 | 240 |
| Val | Ile | Thr | Pro | Glu | Glu | Ile | Val | Asp | Pro | Asn | Val | Asp | Glu | His | Ser | 245 | 250 | 255 |     |



|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
|     | 580 |     | 585 |     | 590 |
| Lys | Ser | Ala | Asp | Phe | Val |
|     | 595 |     | 600 |     | 605 |
| Leu | Gly | Phe | Ser | Val | Glu |
|     | 610 |     | 615 |     | 620 |
| Asp | Lys | Gly | Asp | Gly | Ser |
|     | 625 |     | 630 |     | 635 |
| Gly | Glu | Tyr | Ala | Val | His |
|     |     |     | 645 |     | 650 |
| Ser | Pro | Phe | Met | Ala | Asp |
|     | 660 |     | 665 |     | 670 |
| Asp | Arg | Val | Lys | Ala | Arg |
|     | 675 |     | 680 |     | 685 |
| Val | Asn | Lys | Pro | Ala | Glu |
|     | 690 |     | 695 |     | 700 |
| Ala | Pro | Leu | Arg | Val | Gln |
|     | 705 |     | 710 |     | 715 |
| Ala | Leu | Val | Lys | Asp | Asn |
|     |     |     | 725 |     | 730 |
| Pro | Arg | Lys | Pro | Val | Lys |
|     | 740 |     | 745 |     | 750 |
| Ser | Ile | Pro | Asn | Ser | Pro |
|     | 755 |     | 760 |     | 765 |
| Pro | Asn | Lys | Val | Lys | Val |
|     | 770 |     | 775 |     | 780 |
| Lys | Ala | His | Glu | Pro | Thr |
|     | 785 |     | 790 |     | 795 |
| Gln | Gly | Asp | Val | Ser | Ile |
|     |     |     | 805 |     | 810 |
| Pro | Ala | Glu | Ala | Asp | Ile |
|     | 820 |     | 825 |     | 830 |
| Thr | Phe | Thr | Val | Lys | Tyr |
|     | 835 |     | 840 |     | 845 |
| Met | Val | Leu | Phe | Ala | Asp |
|     | 850 |     | 855 |     | 860 |
| Lys | Val | Glu | Pro | Ser | His |
|     | 865 |     | 870 |     | 875 |
| Gly | Leu | Ser | Arg | Thr | Gly |
|     |     |     | 885 |     | 890 |
| Val | Asn | Ala | Lys | Ala | Ala |
|     | 900 |     | 905 |     | 910 |

Gly Leu Thr Lys Gly Asp Ala Val Arg Asp Val Asp Ile Ile Asp His  
 915 920 925  
 His Asp Asn Thr Tyr Thr Val Lys Tyr Thr Pro Val Gln Gln Gly Pro  
 930 935 940  
 Val Gly Val Asn Val Thr Tyr Gly Gly Asp Pro Ile Pro Lys Ser Pro  
 945 950 955 960  
 Phe Ser Val Ala Val Ser Pro Ser Leu Asp Leu Ser Lys Ile Lys Val  
 965 970 975  
 Ser Gly Leu Gly Glu Lys Val Asp Val Gly Lys Asp Gln Glu Phe Thr  
 980 985 990  
 Val Lys Ser Lys Gly Ala Gly Gly Gln Gly Lys Val Ala Ser Lys Ile  
 995 1000 1005  
 Val Gly Pro Ser Gly Ala Ala Val Pro Cys Lys Val Glu Pro Gly  
 1010 1015 1020  
 Leu Gly Ala Asp Asn Ser Val Val Arg Phe Leu Pro Arg Glu Glu  
 1025 1030 1035  
 Gly Pro Tyr Glu Val Glu Val Thr Tyr Asp Gly Val Pro Val Pro  
 1040 1045 1050  
 Gly Ser Pro Phe Pro Leu Glu Ala Val Ala Pro Thr Lys Pro Ser  
 1055 1060 1065  
 Lys Val Lys Ala Phe Gly Pro Gly Leu Gln Gly Gly Ser Ala Gly  
 1070 1075 1080  
 Ser Pro Ala Arg Phe Thr Ile Asp Thr Lys Gly Ala Gly Thr Gly  
 1085 1090 1095  
 Gly Leu Gly Leu Thr Val Glu Gly Pro Cys Glu Ala Gln Leu Glu  
 1100 1105 1110  
 Cys Leu Asp Asn Gly Asp Gly Thr Cys Ser Val Ser Tyr Val Pro  
 1115 1120 1125  
 Thr Glu Pro Gly Asp Tyr Asn Ile Asn Ile Leu Phe Ala Asp Thr  
 1130 1135 1140  
 His Ile Pro Gly Ser Pro Phe Lys Ala His Val Val Pro Cys Phe  
 1145 1150 1155  
 Asp Ala Ser Lys Val Lys Cys Ser Gly Pro Gly Leu Glu Arg Ala  
 1160 1165 1170  
 Thr Ala Gly Glu Val Gly Gln Phe Gln Val Asp Cys Ser Ser Ala  
 1175 1180 1185  
 Gly Ser Ala Glu Leu Thr Ile Glu Ile Cys Ser Glu Ala Gly Leu  
 1190 1195 1200  
 Pro Ala Glu Val Tyr Ile Gln Asp His Gly Asp Gly Thr His Thr  
 1205 1210 1215  
 Ile Thr Tyr Ile Pro Leu Cys Pro Gly Ala Tyr Thr Val Thr Ile

|                             |                     |             |
|-----------------------------|---------------------|-------------|
| 1220                        | 1225                | 1230        |
| Lys Tyr Gly Gly Gln Pro Val | Pro Asn Phe Pro Ser | Lys Leu Gln |
| 1235                        | 1240                | 1245        |
| Val Glu Pro Ala Val Asp Thr | Ser Gly Val Gln Cys | Tyr Gly Pro |
| 1250                        | 1255                | 1260        |
| Gly Ile Glu Gly Gln Gly Val | Phe Arg Glu Ala Thr | Thr Glu Phe |
| 1265                        | 1270                | 1275        |
| Ser Val Asp Ala Arg Ala Leu | Thr Gln Thr Gly Gly | Pro His Val |
| 1280                        | 1285                | 1290        |
| Lys Ala Arg Val Ala Asn Pro | Ser Gly Asn Leu Thr | Glu Thr Tyr |
| 1295                        | 1300                | 1305        |
| Val Gln Asp Arg Gly Asp Gly | Met Tyr Lys Val Glu | Tyr Thr Pro |
| 1310                        | 1315                | 1320        |
| Tyr Glu Glu Gly Leu His Ser | Val Asp Val Thr Tyr | Asp Gly Ser |
| 1325                        | 1330                | 1335        |
| Pro Val Pro Ser Ser Pro Phe | Gln Val Pro Val Thr | Glu Gly Cys |
| 1340                        | 1345                | 1350        |
| Asp Pro Ser Arg Val Arg Val | His Gly Pro Gly Ile | Gln Ser Gly |
| 1355                        | 1360                | 1365        |
| Thr Thr Asn Lys Pro Asn Lys | Phe Thr Val Glu Thr | Arg Gly Ala |
| 1370                        | 1375                | 1380        |
| Gly Thr Gly Gly Leu Gly Leu | Ala Val Glu Gly Pro | Ser Glu Ala |
| 1385                        | 1390                | 1395        |
| Lys Met Ser Cys Met Asp Asn | Lys Asp Gly Ser Cys | Ser Val Glu |
| 1400                        | 1405                | 1410        |
| Tyr Ile Pro Tyr Glu Ala Gly | Thr Tyr Ser Leu Asn | Val Thr Tyr |
| 1415                        | 1420                | 1425        |
| Gly Gly His Gln Val Pro Gly | Ser Pro Phe Lys Val | Pro Val His |
| 1430                        | 1435                | 1440        |
| Asp Val Thr Asp Ala Ser Lys | Val Lys Cys Ser Gly | Pro Gly Leu |
| 1445                        | 1450                | 1455        |
| Ser Pro Gly Met Val Arg Ala | Asn Leu Pro Gln Ser | Phe Gln Val |
| 1460                        | 1465                | 1470        |
| Asp Thr Ser Lys Ala Gly Val | Ala Pro Leu Gln Val | Lys Val Gln |
| 1475                        | 1480                | 1485        |
| Gly Pro Lys Gly Leu Val Glu | Pro Val Asp Val Val | Asp Asn Ala |
| 1490                        | 1495                | 1500        |
| Asp Gly Thr Gln Thr Val Asn | Tyr Val Pro Ser Arg | Glu Gly Pro |
| 1505                        | 1510                | 1515        |
| Tyr Ser Ile Ser Val Leu Tyr | Gly Asp Glu Glu Val | Pro Arg Ser |
| 1520                        | 1525                | 1530        |



|         |         |         |      |         |         |      |         |     |
|---------|---------|---------|------|---------|---------|------|---------|-----|
| Pro Phe | Lys Val | Lys Val | Leu  | Pro Thr | His Asp | Ala  | Ser Lys | Val |
| 1535    |         |         | 1540 |         |         | 1545 |         |     |
| Lys Ala | Ser Gly | Pro Gly | Leu  | Asn Thr | Thr Gly | Val  | Pro Ala | Ser |
| 1550    |         |         | 1555 |         |         | 1560 |         |     |
| Leu Pro | Val Glu | Phe Thr | Ile  | Asp Ala | Lys Asp | Ala  | Gly Glu | Gly |
| 1565    |         |         | 1570 |         |         | 1575 |         |     |
| Leu Leu | Ala Val | Gln Ile | Thr  | Asp Pro | Glu Gly | Lys  | Pro Lys | Lys |
| 1580    |         |         | 1585 |         |         | 1590 |         |     |

|         |         |         |      |         |         |      |         |     |
|---------|---------|---------|------|---------|---------|------|---------|-----|
| Thr His | Ile Gln | Asp Asn | His  | Asp Gly | Thr Tyr | Thr  | Val Ala | Tyr |
| 1595    |         |         | 1600 |         |         | 1605 |         |     |
| Val Pro | Asp Val | Thr Gly | Arg  | Tyr Thr | Ile Leu | Ile  | Lys Tyr | Gly |
| 1610    |         |         | 1615 |         |         | 1620 |         |     |
| Gly Asp | Glu Ile | Pro Phe | Ser  | Pro Tyr | Arg Val | Arg  | Ala Val | Pro |
| 1625    |         |         | 1630 |         |         | 1635 |         |     |
| Thr Gly | Asp Ala | Ser Lys | Cys  | Thr Val | Thr Val | Ser  | Ile Gly | Gly |
| 1640    |         |         | 1645 |         |         | 1650 |         |     |
| His Gly | Leu Gly | Ala Gly | Ile  | Gly Pro | Thr Ile | Gln  | Ile Gly | Glu |
| 1655    |         |         | 1660 |         |         | 1665 |         |     |
| Glu Thr | Val Ile | Thr Val | Asp  | Thr Lys | Ala Ala | Gly  | Lys Gly | Lys |
| 1670    |         |         | 1675 |         |         | 1680 |         |     |
| Val Thr | Cys Thr | Val Cys | Thr  | Pro Asp | Gly Ser | Glu  | Val Asp | Val |
| 1685    |         |         | 1690 |         |         | 1695 |         |     |
| Asp Val | Val Glu | Asn Glu | Asp  | Gly Thr | Phe Asp | Ile  | Phe Tyr | Thr |
| 1700    |         |         | 1705 |         |         | 1710 |         |     |
| Ala Pro | Gln Pro | Gly Lys | Tyr  | Val Ile | Cys Val | Arg  | Phe Gly | Gly |
| 1715    |         |         | 1720 |         |         | 1725 |         |     |
| Glu His | Val Pro | Asn Ser | Pro  | Phe Gln | Val Thr | Ala  | Leu Ala | Gly |
| 1730    |         |         | 1735 |         |         | 1740 |         |     |
| Asp Gln | Pro Ser | Val Gln | Pro  | Pro Leu | Arg Ser | Gln  | Gln Leu | Ala |
| 1745    |         |         | 1750 |         |         | 1755 |         |     |
| Pro Gln | Tyr Thr | Tyr Ala | Gln  | Gly Gly | Gln Gln | Thr  | Trp Ala | Pro |
| 1760    |         |         | 1765 |         |         | 1770 |         |     |
| Glu Arg | Pro Leu | Val Gly | Val  | Asn Gly | Leu Asp | Val  | Thr Ser | Leu |
| 1775    |         |         | 1780 |         |         | 1785 |         |     |
| Arg Pro | Phe Asp | Leu Val | Ile  | Pro Phe | Thr Ile | Lys  | Lys Gly | Glu |
| 1790    |         |         | 1795 |         |         | 1800 |         |     |
| Ile Thr | Gly Glu | Val Arg | Met  | Pro Ser | Gly Lys | Val  | Ala Gln | Pro |
| 1805    |         |         | 1810 |         |         | 1815 |         |     |
| Thr Ile | Thr Asp | Asn Lys | Asp  | Gly Thr | Val Thr | Val  | Arg Tyr | Ala |

|                             |                     |             |
|-----------------------------|---------------------|-------------|
| 1820                        | 1825                | 1830        |
| Pro Ser Glu Ala Gly Leu His | Glu Met Asp Ile Arg | Tyr Asp Asn |
| 1835                        | 1840                | 1845        |
| Met His Ile Pro Gly Ser Pro | Leu Gln Phe Tyr Val | Asp Tyr Val |
| 1850                        | 1855                | 1860        |
| Asn Cys Gly His Val Thr Ala | Tyr Gly Pro Gly Leu | Thr His Gly |
| 1865                        | 1870                | 1875        |
| Val Val Asn Lys Pro Ala Thr | Phe Thr Val Asn Thr | Lys Asp Ala |
| 1880                        | 1885                | 1890        |
| Gly Glu Gly Gly Leu Ser Leu | Ala Ile Glu Gly Pro | Ser Lys Ala |
| 1895                        | 1900                | 1905        |
| Glu Ile Ser Cys Thr Asp Asn | Gln Asp Gly Thr Cys | Ser Val Ser |
| 1910                        | 1915                | 1920        |
| Tyr Leu Pro Val Leu Pro Gly | Asp Tyr Ser Ile Leu | Val Lys Tyr |
| 1925                        | 1930                | 1935        |
| Asn Glu Gln His Val Pro Gly | Ser Pro Phe Thr Ala | Arg Val Thr |
| 1940                        | 1945                | 1950        |
| Gly Asp Asp Ser Met Arg Met | Ser His Leu Lys Val | Gly Ser Ala |
| 1955                        | 1960                | 1965        |
| Ala Asp Ile Pro Ile Asn Ile | Ser Glu Thr Asp Leu | Ser Leu Leu |
| 1970                        | 1975                | 1980        |
| Thr Ala Thr Val Val Pro Pro | Ser Gly Arg Glu Glu | Pro Cys Leu |
| 1985                        | 1990                | 1995        |
| Leu Lys Arg Leu Arg Asn Gly | His Val Gly Ile Ser | Phe Val Pro |
| 2000                        | 2005                | 2010        |
| Lys Glu Thr Gly Glu His Leu | Val His Val Lys Lys | Asn Gly Gln |
| 2015                        | 2020                | 2025        |
| His Val Ala Ser Ser Pro Ile | Pro Val Val Ile Ser | Gln Ser Glu |
| 2030                        | 2035                | 2040        |
| Ile Gly Asp Ala Ser Arg Val | Arg Val Ser Gly Gln | Gly Leu His |
| 2045                        | 2050                | 2055        |
| Glu Gly His Thr Phe Glu Pro | Ala Glu Phe Ile Ile | Asp Thr Arg |
| 2060                        | 2065                | 2070        |
| Asp Ala Gly Tyr Gly Gly Leu | Ser Leu Ser Ile Glu | Gly Pro Ser |
| 2075                        | 2080                | 2085        |
| Lys Val Asp Ile Asn Thr Glu | Asp Leu Glu Asp Gly | Thr Cys Arg |
| 2090                        | 2095                | 2100        |
| Val Thr Tyr Cys Pro Thr Glu | Pro Gly Asn Tyr Ile | Ile Asn Ile |
| 2105                        | 2110                | 2115        |
| Lys Phe Ala Asp Gln His Val | Pro Gly Ser Pro Phe | Ser Val Lys |
| 2120                        | 2125                | 2130        |

|                             |                                 |
|-----------------------------|---------------------------------|
| Val Thr Gly Glu Gly Arg Val | Lys Glu Ser Ile Thr Arg Arg Arg |
| 2135                        | 2140 2145                       |
| Arg Ala Pro Ser Val Ala Asn | Val Gly Ser His Cys Asp Leu Ser |
| 2150                        | 2155 2160                       |
| Leu Lys Ile Pro Glu Ile Ser | Ile Gln Asp Met Thr Ala Gln Val |
| 2165                        | 2170 2175                       |
| Thr Ser Pro Ser Gly Lys Thr | His Glu Ala Glu Ile Val Glu Gly |
| 2180                        | 2185 2190                       |
| Glu Asn His Thr Tyr Cys Ile | Arg Phe Val Pro Ala Glu Met Gly |
| 2195                        | 2200 2205                       |
| Thr His Thr Val Ser Val Lys | Tyr Lys Gly Gln His Val Pro Gly |
| 2210                        | 2215 2220                       |
| Ser Pro Phe Gln Phe Thr Val | Gly Pro Leu Gly Glu Gly Gly Ala |
| 2225                        | 2230 2235                       |
| His Lys Val Arg Ala Gly Gly | Pro Gly Leu Glu Arg Ala Glu Ala |
| 2240                        | 2245 2250                       |
| Gly Val Pro Ala Glu Phe Ser | Ile Trp Thr Arg Glu Ala Gly Ala |
| 2255                        | 2260 2265                       |
| Gly Gly Leu Ala Ile Ala Val | Glu Gly Pro Ser Lys Ala Glu Ile |
| 2270                        | 2275 2280                       |
| Ser Phe Glu Asp Arg Lys Asp | Gly Ser Cys Gly Val Ala Tyr Val |
| 2285                        | 2290 2295                       |
| Val Gln Glu Pro Gly Asp Tyr | Glu Val Ser Val Lys Phe Asn Glu |
| 2300                        | 2305 2310                       |
| Glu His Ile Pro Asp Ser Pro | Phe Val Val Pro Val Ala Ser Pro |
| 2315                        | 2320 2325                       |
| Ser Gly Asp Ala Arg Arg Leu | Thr Val Ser Ser Leu Gln Glu Ser |
| 2330                        | 2335 2340                       |
| Gly Leu Lys Val Asn Gln Pro | Ala Ser Phe Ala Val Ser Leu Asn |
| 2345                        | 2350 2355                       |
| Gly Ala Lys Gly Ala Ile Asp | Ala Lys Val His Ser Pro Ser Gly |
| 2360                        | 2365 2370                       |
| Ala Leu Glu Glu Cys Tyr Val | Thr Glu Ile Asp Gln Asp Lys Tyr |
| 2375                        | 2380 2385                       |
| Ala Val Arg Phe Ile Pro Arg | Glu Asn Gly Val Tyr Leu Ile Asp |
| 2390                        | 2395 2400                       |
| Val Lys Phe Asn Gly Thr His | Ile Pro Gly Ser Pro Phe Lys Ile |
| 2405                        | 2410 2415                       |
| Arg Val Gly Glu Pro Gly His | Gly Gly Asp Pro Gly Leu Val Ser |
| 2420                        | 2425 2430                       |
| Ala Tyr Gly Ala Gly Leu Glu | Gly Gly Val Thr Gly Asn Pro Ala |

|                             |                     |             |
|-----------------------------|---------------------|-------------|
| 2435                        | 2440                | 2445        |
| Glu Phe Val Val Asn Thr Ser | Asn Ala Gly Ala Gly | Ala Leu Ser |
| 2450                        | 2455                | 2460        |
| Val Thr Ile Asp Gly Pro Ser | Lys Val Lys Met Asp | Cys Gln Glu |
| 2465                        | 2470                | 2475        |
| Cys Pro Glu Gly Tyr Arg Val | Thr Tyr Thr Pro Met | Ala Pro Gly |
| 2480                        | 2485                | 2490        |
| Ser Tyr Leu Ile Ser Ile Lys | Tyr Gly Gly Pro Tyr | His Ile Gly |
| 2495                        | 2500                | 2505        |
| Gly Ser Pro Phe Lys Ala Lys | Val Thr Gly Pro Arg | Leu Val Ser |
| 2510                        | 2515                | 2520        |
| Asn His Ser Leu His Glu Thr | Ser Ser Val Phe Val | Asp Ser Leu |
| 2525                        | 2530                | 2535        |
| Thr Lys Ala Thr Cys Ala Pro | Gln His Gly Ala Pro | Gly Pro Gly |
| 2540                        | 2545                | 2550        |
| Pro Ala Asp Ala Ser Lys Val | Val Ala Lys Gly Leu | Gly Leu Ser |
| 2555                        | 2560                | 2565        |
| Lys Ala Tyr Val Gly Gln Lys | Ser Ser Phe Thr Val | Asp Cys Ser |
| 2570                        | 2575                | 2580        |
| Lys Ala Gly Asn Asn Met Leu | Leu Val Gly Val His | Gly Pro Arg |
| 2585                        | 2590                | 2595        |
| Thr Pro Cys Glu Glu Ile Leu | Val Lys His Val Gly | Ser Arg Leu |
| 2600                        | 2605                | 2610        |
| Tyr Ser Val Ser Tyr Leu Leu | Lys Asp Lys Gly Glu | Tyr Thr Leu |
| 2615                        | 2620                | 2625        |
| Val Val Lys Trp Gly His Glu | His Ile Pro Gly Ser | Pro Tyr Arg |
| 2630                        | 2635                | 2640        |
| Val Val Val Pro             |                     |             |
| 2645                        |                     |             |

<210> 10  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Transgelin 2  
 <222> (1)..(199)  
 <223> Accession NO: as of 06 Dec 2002: P37802  
 <400> 10

Met Ala Asn Arg Gly Pro Ala Tyr Gly Leu Ser Arg Glu Val Gln Gln  
 1 5 10 15  
 Lys Ile Glu Lys Gln Tyr Asp Ala Asp Leu Glu Gln Ile Leu Ile Gln  
 20 25 30  
 Trp Ile Thr Thr Gln Cys Arg Lys Asp Val Gly Arg Pro Gln Pro Gly  
 35 40 45  
 Arg Glu Asn Phe Gln Asn Trp Leu Lys Asp Gly Thr Val Leu Cys Glu  
 50 55 60  
 Leu Ile Asn Ala Leu Tyr Pro Glu Gly Gln Ala Pro Val Lys Lys Ile  
 65 70 75 80  
 Gln Ala Ser Thr Met Ala Phe Lys Gln Met Glu Gln Ile Ser Gln Phe  
 85 90 95  
 Leu Gln Ala Ala Glu Arg Tyr Gly Ile Asn Thr Thr Asp Ile Phe Gln  
 100 105 110  
 Thr Val Asp Leu Trp Glu Gly Lys Asn Met Ala Cys Val Gln Arg Thr  
 115 120 125  
 Leu Met Asn Leu Gly Gly Leu Ala Val Ala Arg Asp Asp Gly Leu Phe  
 130 135 140  
 Ser Gly Asp Pro Asn Trp Phe Pro Lys Lys Ser Lys Glu Asn Pro Arg  
 145 150 155 160  
 Asn Phe Ser Asp Asn Gln Leu Gln Glu Gly Lys Asn Val Ile Gly Leu  
 165 170 175  
 Gln Met Gly Thr Asn Arg Gly Ala Ser Gln Ala Gly Met Thr Gly Tyr  
 180 185 190  
 Gly Met Pro Arg Gln Ile Leu  
 195

<210> 11  
 <211> 248  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Tropomyosin alpha 4 chain  
 <222> (1)..(248)  
 <223> Accession NO: P07226  
 <400> 11

Met Ala Gly Leu Asn Ser Leu Glu Ala Val Lys Arg Lys Ile Gln Ala  
 1 5 10 15  
 Leu Gln Gln Gln Ala Asp Glu Ala Glu Asp Arg Ala Gln Gly Leu Gln

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |     |
| Arg | Glu | Leu | Asp | Gly | Glu | Arg | Glu | Arg | Arg | Glu | Lys | Ala | Glu | Gly | Asp |
|     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |     |
| Val | Ala | Ala | Leu | Asn | Arg | Arg | Ile | Gln | Leu | Val | Glu | Glu | Glu | Leu | Asp |
|     | 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |
| Arg | Ala | Gln | Glu | Arg | Leu | Ala | Thr | Ala | Leu | Gln | Lys | Leu | Glu | Glu | Ala |
| 65  |     |     | 70  |     | 75  |     |     |     |     |     |     |     |     |     | 80  |
| Glu | Lys | Ala | Ala | Asp | Glu | Ser | Glu | Arg | Gly | Met | Lys | Val | Ile | Glu | Asn |
|     |     |     | 85  |     | 90  |     |     |     |     |     |     |     |     |     | 95  |
| Arg | Ala | Met | Lys | Asp | Glu | Glu | Lys | Met | Glu | Ile | Gln | Glu | Met | Gln | Leu |
|     | 100 |     | 105 |     | 110 |     |     |     |     |     |     |     |     |     |     |
| Lys | Glu | Ala | Lys | His | Ile | Ala | Glu | Glu | Ala | Asp | Arg | Lys | Tyr | Glu | Glu |
|     | 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |     |     |
| Val | Ala | Arg | Lys | Leu | Val | Ile | Leu | Glu | Gly | Glu | Leu | Glu | Arg | Ala | Glu |
|     | 130 |     | 135 |     | 140 |     |     |     |     |     |     |     |     |     |     |
| Glu | Arg | Ala | Glu | Val | Ser | Glu | Leu | Lys | Cys | Gly | Asp | Leu | Glu | Glu | Glu |
| 145 |     |     | 150 |     | 155 |     |     |     |     |     |     |     |     |     | 160 |
| Leu | Lys | Asn | Val | Thr | Asn | Asn | Leu | Lys | Ser | Leu | Glu | Ala | Ala | Ser | Glu |
|     |     |     | 165 |     | 170 |     |     |     |     |     |     |     |     |     | 175 |
| Lys | Tyr | Ser | Glu | Lys | Glu | Asp | Lys | Tyr | Glu | Glu | Glu | Ile | Lys | Leu | Leu |
|     | 180 |     | 185 |     | 190 |     |     |     |     |     |     |     |     |     |     |
| Ser | Asp | Lys | Leu | Lys | Glu | Ala | Glu | Thr | Arg | Ala | Glu | Phe | Ala | Glu | Arg |
|     | 195 |     | 200 |     | 205 |     |     |     |     |     |     |     |     |     |     |
| Thr | Val | Ala | Lys | Leu | Glu | Lys | Thr | Ile | Asp | Asp | Leu | Glu | Glu | Lys | Leu |
|     | 210 |     | 215 |     | 220 |     |     |     |     |     |     |     |     |     |     |
| Ala | Gln | Ala | Lys | Glu | Glu | Asn | Val | Gly | Leu | His | Gln | Thr | Leu | Asp | Gln |
| 225 |     |     | 230 |     | 235 |     |     |     |     |     |     |     |     |     | 240 |
| Thr | Leu | Asn | Glu | Leu | Asn | Cys | Ile |     |     |     |     |     |     |     |     |
|     | 245 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 12  
 <211> 793  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Caldesmon  
 <222> (1)..(793)  
 <223> Accession NO: as of 06 Dec 2002: Q05682  
 <400> 12

Met Asp Asp Phe Glu Arg Arg Arg Glu Leu Arg Arg Gln Lys Arg Glu  
 1 5 10 15  
 Glu Met Arg Leu Glu Ala Glu Arg Ile Ala Tyr Gln Arg Asn Asp Asp  
 20 25 30  
 Asp Glu Glu Glu Ala Ala Arg Glu Arg Arg Arg Arg Ala Arg Gln Glu  
 35 40 45  
 Arg Leu Arg Gln Lys Gln Glu Glu Ser Leu Gly Gln Val Thr Asp  
 50 55 60  
 Gln Val Glu Val Asn Ala Gln Asn Ser Val Pro Asp Glu Glu Ala Lys  
 65 70 75 80  
 Thr Thr Thr Thr Asn Thr Gln Val Glu Gly Asp Asp Glu Ala Ala Phe  
 85 90 95  
 Leu Glu Arg Leu Ala Arg Arg Glu Glu Arg Arg Gln Lys Arg Leu Gln  
 100 105 110  
 Glu Ala Leu Glu Arg Gln Lys Glu Phe Asp Pro Thr Ile Thr Asp Ala  
 115 120 125  
 Ser Leu Ser Leu Pro Ser Arg Arg Met Gln Asn Asp Thr Ala Glu Asn  
 130 135 140  
 Glu Thr Thr Glu Lys Glu Glu Lys Ser Glu Ser Arg Gln Glu Arg Tyr  
 145 150 155 160  
 Glu Ile Glu Glu Thr Glu Thr Val Thr Lys Ser Tyr Gln Lys Asn Asp  
 165 170 175  
 Trp Arg Asp Ala Glu Glu Asn Lys Lys Glu Asp Lys Glu Lys Glu Glu  
 180 185 190  
 Glu Glu Glu Glu Lys Pro Lys Arg Gly Ser Ile Gly Glu Asn Gln Val  
 195 200 205  
 Glu Val Met Val Glu Glu Lys Thr Thr Glu Ser Gln Glu Glu Thr Val  
 210 215 220  
 Val Met Ser Leu Lys Asn Gly Gln Ile Ser Ser Glu Glu Pro Lys Gln  
 225 230 235 240  
 Glu Glu Glu Arg Glu Gln Gly Ser Asp Glu Ile Ser His His Glu Lys  
 245 250 255  
 Met Glu Glu Glu Asp Lys Glu Arg Ala Glu Ala Glu Arg Ala Arg Leu  
 260 265 270  
 Glu Ala Glu Glu Arg Glu Arg Ile Lys Ala Glu Gln Asp Lys Lys Ile  
 275 280 285  
 Ala Asp Glu Arg Ala Arg Ile Glu Ala Glu Glu Lys Ala Ala Ala Gln  
 290 295 300  
 Glu Arg Glu Arg Arg Glu Ala Glu Glu Arg Glu Arg Met Arg Glu Glu  
 305 310 315 320  
 Glu Lys Arg Ala Ala Glu Glu Arg Gln Arg Ile Lys Glu Glu Glu Lys





Val Gln Lys Ser Ser Gly Val Lys Ser Thr His Gln Ala Ala Ile Val  
                   660                  665                  670  
 Ser Lys Ile Asp Ser Arg Leu Glu Gln Tyr Thr Ser Ala Ile Glu Gly  
                   675                  680                  685  
 Thr Lys Ser Ala Lys Pro Thr Lys Pro Ala Ala Ser Asp Leu Pro Val  
                   690                  695                  700  
 Pro Ala Glu Gly Val Arg Asn Ile Lys Ser Met Trp Glu Lys Gly Asn  
 705                  710                  715                  720  
 Val Phe Ser Ser Pro Thr Ala Ala Gly Thr Pro Asn Lys Glu Thr Ala  
                   725                  730                  735  
 Gly Leu Lys Val Gly Val Ser Ser Arg Ile Asn Glu Trp Leu Thr Lys  
                   740                  745                  750  
 Thr Pro Asp Gly Asn Lys Ser Pro Ala Pro Lys Pro Ser Asp Leu Arg  
                   755                  760                  765  
 Pro Gly Asp Val Ser Ser Lys Arg Asn Leu Trp Glu Lys Gln Ser Val  
                   770                  775                  780  
 Asp Lys Val Thr Ser Pro Thr Lys Val  
                   325                  790

<210> 13  
 <211> 458  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Alpha enolase  
 <222> (1)..(458)  
 <223> Accession NO: as of 06 Dec 2002: Q05524  
 <400> 13

Met Ser Ile Leu Lys Ile Ile His Ala Arg Asp Ile Phe Glu Ser Arg  
 1                  5                  10                  15  
 Gly Asn Pro Thr Val Glu Val Asp Leu Tyr Thr Asn Lys Gly Gly Leu  
                   20                  25                  30  
 Phe Gly Arg Ala Ala Val Pro Ser Gly Ala Ser Thr Gly Ile Tyr Glu  
                   35                  40                  45  
 Ala Leu Leu Glu Leu Arg Asp Asn Asp Lys Thr Arg Tyr Met Gly Gly  
                   50                  55                  60  
 Lys Gly Val Ser Lys Ala Val Glu His Ile Ile Asn Lys Thr Ile Ala  
 65                  70                  75                  80  
 Pro Ala Leu Ile Ser Lys Asn Val Asn Val Val Glu Gln Asp Lys Ile

| 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Asp | Asn | Leu | Met | Leu | Asp | Met | Asp | Gly | Ser | Glu | Asn | Lys | Ser | Lys | Phe |  |
| 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |     |     |  |
| Gly | Ala | Asn | Ala | Ile | Leu | Gly | Val | Ser | Leu | Ala | Val | Cys | Ser | Asn | Ala |  |
| 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |     |  |
| Gly | Ala | Thr | Ala | Glu | Lys | Gly | Val | Pro | Leu | Tyr | Arg | His | Ile | Ala | Asp |  |
| 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |  |
| Leu | Ala | Gly | Asn | Asn | Pro | Glu | Val | Ile | Leu | Pro | Val | Pro | Ala | Phe | Asn |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Val | Ile | Asn | Gly | Gly | Ser | His | Ala | Gly | Asn | Lys | Leu | Ala | Met | Gln | Glu |  |
| 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |     |     |     |  |
| Phe | Met | Ile | Pro | Pro | Cys | Gly | Ala | Asp | Arg | Phe | Asn | Asp | Ala | Ile | Arg |  |
| 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |     |     |  |
| Ile | Gly | Ala | Glu | Val | Tyr | His | Asn | Leu | Lys | Asn | Val | Ile | Lys | Glu | Lys |  |
| 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |     |  |
| Tyr | Gly | Lys | Asp | Ala | Thr | Asn | Val | Gly | Asp | Glu | Gly | Gly | Phe | Ala | Pro |  |
| 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |  |
| Asn | Ile | Leu | Glu | Asn | Lys | Glu | Ala | Leu | Glu | Leu | Leu | Lys | Thr | Ala | Ile |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Gly | Lys | Ala | Gly | Tyr | Ser | Asp | Lys | Val | Val | Ile | Gly | Met | Asp | Val | Ala |  |
| 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |     |     |     |  |
| Ala | Ser | Glu | Phe | Tyr | Arg | Asp | Gly | Lys | Tyr | Asp | Leu | Asp | Phe | Asn | Ser |  |
| 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |     |     |  |
| Pro | Asp | Asp | Pro | Ser | Arg | Tyr | Ile | Ser | Pro | Asp | Gln | Leu | Ala | Asp | Leu |  |
| 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |     |  |
| Tyr | Lys | Gly | Phe | Val | Leu | Gly | His | Ala | Val | Lys | Asn | Tyr | Pro | Val | Gly |  |
| 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |  |
| Val | Ser | Ile | Glu | Asp | Pro | Pro | Phe | Asp | Gln | Asp | Asp | Trp | Gly | Ala | Trp |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Lys | Lys | Leu | Phe | Thr | Gly | Ser | Leu | Val | Gly | Ile | Gln | Val | Val | Gly | Asp |  |
| 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |     |     |     |  |
| Asp | Leu | Thr | Val | Thr | Lys | Pro | Glu | Ala | Arg | Ile | Ala | Lys | Ala | Val | Glu |  |
| 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |     |     |  |
| Glu | Val | Lys | Ala | Cys | Asn | Cys | Leu | Leu | Leu | Lys | Val | Asn | Gln | Ile |     |  |
| 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |     |  |
| Gly | Ser | Val | Thr | Glu | Ser | Leu | Gln | Ala | Cys | Lys | Leu | Ala | Gln | Ser | Asn |  |
| 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |     |  |
| Gly | Trp | Gly | Val | Met | Pro | Val | Ser | His | Arg | Leu | Ser | Gly | Glu | Thr | Glu |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Asp | Thr | Phe | Met | Ala | Asp | Leu | Val | Val | Gly | Leu | Cys | Thr | Gly | Gln | Ile |  |
| 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |     |     |     |  |

Lys Thr Gly Pro Thr Cys Arg Ser Glu Arg Leu Ala Lys Tyr Asn Gln  
                   420                                  425                                  430  
 Leu Leu Arg Ile Glu Glu Ala Glu Ala Gly Ser Lys Ala Arg Phe Ala  
                   435                                  440                                  445  
 Gly Arg Asn Phe Arg Asn Pro Arg Ile Asn  
           325          455

<210> 14  
 <211> 408  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Aminoacylase-1  
 <222> (1)..(408)  
 <223> Accession NO: .as of 06 Dec 2002: Q03154  
 <400> 14

Met Thr Ser Lys Gly Pro Glu Glu Glu His Pro Ser Val Thr Leu Phe  
 1                  5                                  10                                  15  
 Arg Gln Tyr Leu Arg Ile Arg Thr Val Gln Pro Lys Pro Asp Tyr Gly  
                   20                                  25                                  30  
 Ala Ala Val Ala Phe Phe Glu Glu Thr Ala Arg Gln Leu Gly Leu Gly  
                   35                                  40                                  45  
 Cys Gln Lys Val Glu Val Ala Pro Gly Tyr Val Val Thr Val Leu Thr  
                   50                                  55                                  60  
 Trp Pro Gly Thr Asn Pro Thr Leu Ser Ser Ile Leu Leu Asn Ser His  
 65                                  70                                  75                                  80  
 Thr Asp Val Val Pro Val Phe Lys Glu His Trp Ser His Asp Pro Phe  
                                   85                                  90                                  95  
 Glu Ala Phe Lys Asp Ser Glu Gly Tyr Ile Tyr Ala Arg Gly Ala Gln  
                   100                                  105                                  110  
 Asp Met Lys Cys Val Ser Ile Gln Tyr Leu Glu Ala Val Arg Arg Leu  
                   115                                  120                                  125  
 Lys Val Glu Gly His Arg Phe Pro Arg Thr Ile His Met Thr Phe Val  
                   130                                  135                                  140  
 Pro Asp Glu Glu Val Gly Gly His Gln Gly Met Glu Leu Phe Val Gln  
 145                                  150                                  155                                  160  
 Arg Pro Glu Phe His Ala Leu Arg Ala Gly Phe Ala Leu Asp Glu Gly  
                                   165                                  170                                  175  
 Ile Ala Asn Pro Thr Asp Ala Phe Thr Val Phe Tyr Ser Glu Arg Ser

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 180 |     | 185 |     | 190 |     |     |     |     |     |     |     |     |     |     |
| Pro | Trp | Trp | Val | Arg | Val | Thr | Ser | Thr | Gly | Arg | Pro | Gly | His | Ala | Ser |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Phe | Met | Glu | Asp | Thr | Ala | Ala | Glu | Lys | Leu | His | Lys | Val | Val | Asn |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Ile | Leu | Ala | Phe | Arg | Glu | Lys | Glu | Trp | Gln | Arg | Leu | Gln | Ser | Asn |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Pro | His | Leu | Lys | Glu | Gly | Ser | Val | Thr | Ser | Val | Asn | Leu | Thr | Lys | Leu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Glu | Gly | Gly | Val | Ala | Tyr | Asn | Val | Ile | Pro | Ala | Thr | Met | Ser | Ala | Ser |
|     | 260 |     |     |     |     |     |     | 265 |     |     |     | 270 |     |     |     |
| Phe | Asp | Phe | Arg | Val | Ala | Pro | Asp | Val | Asp | Phe | Lys | Ala | Phe | Glu | Glu |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Gln | Leu | Gln | Ser | Trp | Cys | Gln | Ala | Ala | Gly | Glu | Gly | Val | Thr | Leu | Glu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Phe | Ala | Gln | Lys | Trp | Met | His | Pro | Gln | Val | Thr | Pro | Thr | Asp | Asp | Ser |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Asn | Pro | Trp | Trp | Ala | Ala | Phe | Ser | Arg | Val | Cys | Lys | Asp | Met | Asn | Leu |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Thr | Leu | Glu | Pro | Glu | Ile | Met | Pro | Ala | Ala | Thr | Asp | Asn | Arg | Tyr | Ile |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Arg | Ala | Val | Gly | Val | Pro | Ala | Leu | Gly | Phe | Ser | Pro | Met | Asn | Arg | Thr |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Pro | Val | Leu | Leu | His | Asp | His | Asp | Glu | Arg | Leu | His | Glu | Ala | Val | Phe |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Leu | Arg | Gly | Val | Asp | Ile | Tyr | Thr | Arg | Leu | Leu | Pro | Ala | Leu | Ala | Ser |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     | 400 |
| Val | Pro | Ala | Leu | Pro | Ser | Asp | Ser |     |     |     |     |     |     |     |     |
|     |     |     | 405 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 15  
 <211> 277  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> F-actin capping protein beta subunit  
 <222> (1)..(277)  
 <223> Accession NO: as of 06 Dec 2002: P47756  
 <400> 15

Met Ser Asp Gln Gln Leu Asp Cys Ala Leu Asp Leu Met Arg Arg Leu  
 1 5 10 15  
 Pro Pro Gln Gln Ile Glu Lys Asn Leu Ser Asp Leu Ile Asp Leu Val  
 20 25 30  
 Pro Ser Leu Cys Glu Asp Leu Leu Ser Ser Val Asp Gln Pro Leu Lys  
 35 40 45  
 Ile Ala Arg Asp Lys Val Val Gly Lys Asp Tyr Leu Leu Cys Asp Tyr  
 50 55 60  
 Asn Arg Asp Gly Asp Ser Tyr Arg Ser Pro Trp Ser Asn Lys Tyr Asp  
 65 70 75 80  
 Pro Pro Leu Glu Asp Gly Ala Met Pro Ser Ala Arg Leu Arg Lys Leu  
 85 90 95  
 Glu Val Glu Ala Asn Asn Ala Phe Asp Gln Tyr Arg Asp Leu Tyr Phe  
 100 105 110  
 Glu Gly Gly Val Ser Ser Val Tyr Leu Trp Asp Leu Asp His Gly Phe  
 115 120 125  
 Ala Gly Val Ile Leu Ile Lys Lys Ala Gly Asp Gly Ser Lys Lys Ile  
 130 135 140  
 Lys Gly Cys Trp Asp Ser Ile His Val Val Glu Val Gln Glu Lys Ser  
 145 150 155 160  
 Ser Gly Arg Thr Ala His Tyr Lys Leu Thr Ser Thr Val Met Leu Trp  
 165 170 175  
 Leu Gln Thr Asn Lys Ser Gly Ser Gly Thr Met Asn Leu Gly Gly Ser  
 180 185 190  
 Leu Thr Arg Gln Met Glu Lys Asp Glu Thr Val Ser Asp Cys Ser Pro  
 195 200 205  
 His Ile Ala Asn Ile Gly Arg Leu Val Glu Asp Met Glu Asn Lys Ile  
 210 215 220  
 Arg Ser Thr Leu Asn Glu Ile Tyr Phe Gly Lys Thr Lys Asp Ile Val  
 225 230 235 240  
 Asn Gly Leu Arg Ser Ile Asp Ala Ile Pro Asp Asn Gln Lys Phe Lys  
 245 250 255  
 Gln Leu Gln Arg Glu Leu Ser Gln Val Leu Thr Gln Arg Gln Ile Tyr  
 260 265 270  
 Ile Gln Pro Asp Asn  
 275

<210> 16  
 <211> 289  
 <212> PRT

<213> Homo sapiens  
 <220>  
 <221> Inorganic pyrophosphatase  
 <222> (1)..(289)  
 <223> Accession NO: as of 06 Dec 2002: Q15181  
 <400> 16

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Gly | Phe | Ser | Thr | Glu | Glu | Arg | Ala | Ala | Pro | Phe | Ser | Leu | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Arg | Val | Phe | Leu | Lys | Asn | Glu | Lys | Gly | Gln | Tyr | Ile | Ser | Pro | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Asp | Ile | Pro | Ile | Tyr | Ala | Asp | Lys | Asp | Val | Phe | His | Met | Val | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Val | Pro | Arg | Trp | Ser | Asn | Ala | Lys | Met | Glu | Ile | Ala | Thr | Lys | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Pro | Leu | Asn | Pro | Ile | Lys | Gln | Asp | Val | Lys | Lys | Gly | Lys | Leu | Arg | Tyr |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Ala | Asn | Leu | Phe | Pro | Tyr | Lys | Gly | Tyr | Ile | Trp | Asn | Tyr | Gly | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ile | Pro | Gln | Thr | Trp | Glu | Asp | Pro | Gly | His | Asn | Asp | Lys | His | Thr | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Cys | Gly | Asp | Asn | Asp | Pro | Ile | Asp | Val | Cys | Glu | Ile | Gly | Ser | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Cys | Ala | Arg | Gly | Glu | Ile | Ile | Gly | Val | Lys | Val | Leu | Gly | Ile | Leu |
|     | 130 |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Ala | Met | Ile | Asp | Glu | Gly | Glu | Thr | Asp | Trp | Lys | Val | Ile | Ala | Ile | Asn |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Asp | Asp | Pro | Asp | Ala | Ala | Asn | Tyr | Asn | Asp | Ile | Asn | Asp | Val | Lys |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Arg | Leu | Lys | Pro | Gly | Tyr | Leu | Glu | Ala | Thr | Val | Asp | Trp | Phe | Arg | Arg |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Tyr | Lys | Val | Pro | Asp | Gly | Lys | Pro | Glu | Asn | Glu | Phe | Ala | Phe | Asn | Ala |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Phe | Lys | Asp | Lys | Asp | Phe | Ala | Ile | Asp | Ile | Ile | Lys | Ser | Thr | His |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | His | Trp | Lys | Ala | Leu | Val | Thr | Lys | Lys | Thr | Asn | Gly | Lys | Gly | Ile |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ser | Cys | Met | Asn | Thr | Thr | Leu | Ser | Glu | Ser | Pro | Phe | Lys | Cys | Asp | Pro |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Asp | Ala | Ala | Arg | Ala | Ile | Val | Asp | Ala | Leu | Pro | Pro | Pro | Cys | Glu | Ser |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |

Ala Cys Thr Val Pro Thr Asp Val Asp Lys Trp Phe His His Gln Lys  
 275 280 285  
 Asn

<210> 17  
 <211> 250  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Galectin-3 (Galactose-specific lectin 3)  
 <222> (1)..(250)  
 <223> Accession NO: as of 06 Dec 2002: P17931  
 <400> 17

Met Ala Asp Asn Phe Ser Leu His Asp Ala Leu Ser Gly Ser Gly Asn  
 1 5 10 15  
 Pro Asn Pro Gln Gly Trp Pro Gly Ala Trp Gly Asn Gln Pro Ala Gly  
 20 25 30  
 Ala Gly Gly Tyr Pro Gly Ala Ser Tyr Pro Gly Ala Tyr Pro Gly Gln  
 35 40 45  
 Ala Pro Pro Gly Ala Tyr Pro Gly Gln Ala Pro Pro Gly Ala Tyr His  
 50 55 60  
 Gly Ala Pro Gly Ala Tyr Pro Gly Ala Pro Ala Pro Gly Val Tyr Pro  
 65 70 75 80  
 Gly Pro Pro Ser Gly Pro Gly Ala Tyr Pro Ser Ser Gly Gln Pro Ser  
 85 90 95  
 Ala Pro Gly Ala Tyr Pro Ala Thr Gly Pro Tyr Gly Ala Pro Ala Gly  
 100 105 110  
 Pro Leu Ile Val Pro Tyr Asn Leu Pro Leu Pro Gly Gly Val Val Pro  
 115 120 125  
 Arg Met Leu Ile Thr Ile Leu Gly Thr Val Lys Pro Asn Ala Asn Arg  
 130 135 140  
 Ile Ala Leu Asp Phe Gln Arg Gly Asn Asp Val Ala Phe His Phe Asn  
 145 150 155 160  
 Pro Arg Phe Asn Glu Asn Asn Arg Arg Val Ile Val Cys Asn Thr Lys  
 165 170 175  
 Leu Asp Asn Asn Trp Gly Arg Glu Glu Arg Gln Ser Val Phe Pro Phe  
 180 185 190  
 Glu Ser Gly Lys Pro Phe Lys Ile Gln Val Leu Val Glu Pro Asp His

195                      200                      205  
 Phe Lys Val Ala Val Asn Asp Ala His Leu Leu Gln Tyr Asn His Arg  
 210                      215                      220  
 Val Lys Lys Leu Asn Glu Ile Ser Lys Leu Gly Ile Ser Gly Asp Ile  
 225                      230                      235                      240  
 Asp Leu Thr Ser Ala Ser Tyr Thr Met Ile  
                     325           250

<210> 18  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Voltage-dependent anion-selective channel protein 2 (VDAC-2)  
 <222> (1)..(347)  
 <223> Accession NO:as of 06 Dec 2002: P45880  
 <400> 18

Met Ser Trp Cys Asn Glu Leu Arg Leu Pro Ala Leu Lys Gln His Ser  
 1                      5                      10                      15  
 Ile Gly Arg Gly Leu Glu Ser His Ile Thr Met Cys Ile Pro Pro Ser  
                     20                      25                      30  
 Tyr Ala Asp Leu Gly Lys Ala Ala Arg Asp Ile Phe Asn Lys Gly Phe  
                     35                      40                      45  
 Gly Phe Gly Leu Val Lys Leu Asp Val Lys Thr Lys Ser Cys Ser Gly  
                     50                      55                      60  
 Val Glu Phe Ser Thr Ser Gly Ser Ser Asn Thr Asp Thr Gly Lys Val  
 65                      70                      75                      80  
 Thr Gly Thr Leu Glu Thr Lys Tyr Lys Trp Cys Glu Tyr Gly Leu Thr  
                     85                      90                      95  
 Phe Thr Glu Lys Trp Asn Thr Asp Asn Thr Leu Gly Thr Glu Ile Ala  
                     100                      105                      110  
 Ile Glu Asp Gln Ile Cys Gln Gly Leu Lys Leu Thr Phe Asp Thr Thr  
                     115                      120                      125  
 Phe Ser Pro Asn Thr Gly Lys Lys Ser Gly Lys Ile Lys Ser Ser Tyr  
                     130                      135                      140  
 Lys Arg Glu Cys Ile Asn Leu Gly Cys Asp Val Asp Phe Asp Phe Ala  
 145                      150                      155                      160  
 Gly Pro Ala Ile His Gly Ser Ala Val Phe Gly Tyr Glu Gly Trp Leu  
                     165                      170                      175



Ala Gly Tyr Gln Met Thr Phe Asp Ser Ala Lys Ser Lys Leu Thr Arg  
 180 185 190  
 Asn Asn Phe Ala Val Gly Tyr Arg Thr Gly Asp Phe Gln Leu His Thr  
 195 200 205  
 Asn Val Asn Asp Gly Thr Glu Phe Gly Gly Ser Ile Tyr Gln Lys Val  
 210 215 220  
 Cys Glu Asp Leu Asp Thr Ser Val Asn Leu Ala Trp Thr Ser Gly Thr  
 225 230 235 240  
 Asn Cys Thr Arg Phe Gly Ile Ala Ala Lys Tyr Gln Leu Asp Pro Thr  
 245 250 255  
 Ala Ser Ile Ser Ala Lys Val Asn Asn Ser Ser Leu Ile Gly Val Gly  
 260 265 270  
 Tyr Thr Gln Thr Leu Arg Pro Gly Val Lys Leu Thr Leu Ser Ala Leu  
 275 280 285  
 Val Asp Gly Lys Ser Ile Asn Ala Gly Gly His Lys Val Gly Ser Pro  
 290 295 300  
 Trp Ser Trp Arg Leu Asn Pro Ala Glu Arg Asn Leu Trp Glu Trp Ile  
 305 310 315 320  
 Ser Glu Asp Leu Ala Leu Ile Tyr Phe His Cys Asp Gln Gln Gln Ala  
 325 330 335  
 Phe Phe Pro Pro Glu Asp Asp Gln Asn Lys Gly  
 325 345

<210> 19  
 <211> 339  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Annexin II  
 <222> (1)..(339)  
 <223> Accession NO: as of 06 Dec 2002: P07355  
 <400> 19

Met Ser Thr Val His Glu Ile Leu Cys Lys Leu Ser Leu Glu Gly Asp  
 1 5 10 15  
 His Ser Thr Pro Pro Ser Ala Tyr Gly Ser Val Lys Ala Tyr Thr Asn  
 20 25 30  
 Phe Asp Ala Glu Arg Asp Ala Leu Asn Ile Glu Thr Ala Ile Lys Thr  
 35 40 45  
 Lys Gly Val Asp Glu Val Thr Ile Val Asn Ile Leu Thr Asn Arg Ser

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |
| Asn | Ala | Gln | Arg | Gln | Asp | Ile | Ala | Phe | Ala | Tyr | Gln | Arg | Arg | Thr | Lys |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Lys | Glu | Leu | Ala | Ser | Ala | Leu | Lys | Ser | Ala | Leu | Ser | Gly | His | Leu | Glu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Val | Ile | Leu | Gly | Leu | Leu | Lys | Thr | Pro | Ala | Gln | Tyr | Asp | Ala | Ser |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |
| Glu | Leu | Lys | Ala | Ser | Met | Lys | Gly | Leu | Gly | Thr | Asp | Glu | Asp | Ser | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Glu | Ile | Ile | Cys | Ser | Arg | Thr | Asn | Gln | Glu | Leu | Gln | Glu | Ile | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Val | Tyr | Lys | Glu | Met | Tyr | Lys | Thr | Asp | Leu | Glu | Lys | Asp | Ile | Ile |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Ser | Asp | Thr | Ser | Gly | Asp | Phe | Arg | Lys | Leu | Met | Val | Ala | Leu | Ala | Lys |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Arg | Arg | Ala | Glu | Asp | Gly | Ser | Val | Ile | Asp | Tyr | Glu | Leu | Ile | Asp |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Gln | Asp | Ala | Arg | Asp | Leu | Tyr | Asp | Ala | Gly | Val | Lys | Arg | Lys | Gly | Thr |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Asp | Val | Pro | Lys | Trp | Ile | Ser | Ile | Met | Thr | Glu | Arg | Ser | Val | Pro | His |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Gln | Lys | Val | Phe | Asp | Arg | Tyr | Lys | Ser | Tyr | Ser | Pro | Tyr | Asp | Met |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Leu | Glu | Ser | Ile | Arg | Lys | Glu | Val | Lys | Gly | Asp | Leu | Glu | Asn | Ala | Phe |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Leu | Asn | Leu | Val | Gln | Cys | Ile | Gln | Asn | Lys | Pro | Leu | Tyr | Phe | Ala | Asp |
|     | 260 |     |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Arg | Leu | Tyr | Asp | Ser | Met | Lys | Gly | Lys | Gly | Thr | Arg | Asp | Lys | Val | Leu |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Ile | Arg | Ile | Met | Val | Ser | Arg | Ser | Glu | Val | Asp | Met | Leu | Lys | Ile | Arg |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Glu | Phe | Lys | Arg | Lys | Tyr | Gly | Lys | Ser | Leu | Tyr | Tyr | Tyr | Ile | Gln |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |     |
| Gln | Asp | Thr | Lys | Gly | Asp | Tyr | Gln | Lys | Ala | Leu | Leu | Tyr | Leu | Cys | Gly |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gly | Asp | Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 20  
 <211> 418



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 260 |     | 265 |     | 270 |     |     |     |     |     |     |     |     |     |     |
| His | His | Val | Glu | Pro | Leu | Glu | Arg | Leu | Glu | Lys | Leu | Leu | Thr | Lys | Glu |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Gln | Leu | Lys | Ile | Trp | Met | Gly | Lys | Met | Gln | Lys | Lys | Ala | Val | Ala | Ile |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Leu | Pro | Lys | Gly | Val | Val | Glu | Val | Thr | His | Asp | Leu | Gln | Lys | His |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Leu | Ala | Gly | Leu | Gly | Leu | Thr | Glu | Ala | Ile | Asp | Lys | Asn | Lys | Ala | Asp |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     | 335 |     |     |     |
| Leu | Ser | Arg | Met | Ser | Gly | Lys | Lys | Asp | Leu | Tyr | Leu | Ala | Ser | Val | Phe |
|     | 340 |     |     |     |     |     | 345 |     |     |     | 350 |     |     |     |     |
| His | Ala | Thr | Ala | Phe | Glu | Leu | Asp | Thr | Asp | Gly | Asn | Pro | Phe | Asp | Gln |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| Asp | Ile | Tyr | Gly | Arg | Glu | Glu | Leu | Arg | Ser | Pro | Lys | Leu | Phe | Tyr | Ala |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |
| Asp | His | Pro | Phe | Ile | Phe | Leu | Val | Arg | Asp | Thr | Gln | Ser | Gly | Ser | Leu |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     | 400 |
| Leu | Phe | Ile | Gly | Arg | Leu | Val | Arg | Pro | Lys | Gly | Asp | Lys | Met | Arg | Asp |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |
| Glu | Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 21  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Cofilin, non-muscle isoform  
 <222> (1)..(166)  
 <223> Accession NO: as of 08 ec 2002: P23528  
 <400> 21

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ser | Gly | Val | Ala | Val | Ser | Asp | Gly | Val | Ile | Lys | Val | Phe | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Met | Lys | Val | Arg | Lys | Ser | Ser | Thr | Pro | Glu | Glu | Val | Lys | Lys | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Lys | Ala | Val | Leu | Phe | Cys | Leu | Ser | Glu | Asp | Lys | Lys | Asn | Ile | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Glu | Glu | Gly | Lys | Glu | Ile | Leu | Val | Gly | Asp | Val | Gly | Gln | Thr | Val |
|     | 50  |     |     |     |     |     | 55  |     |     |     |     |     | 60  |     |     |

Asp Asp Pro Tyr Ala Thr Phe Val Lys Met Leu Pro Asp Lys Asp Cys  
 65 70 75 80  
 Arg Tyr Ala Leu Tyr Asp Ala Thr Tyr Glu Thr Lys Glu Ser Lys Lys  
 85 90 95  
 Glu Asp Leu Val Phe Ile Phe Trp Ala Pro Glu Ser Ala Pro Leu Lys  
 100 105 110  
 Ser Lys Met Ile Tyr Ala Ser Ser Lys Asp Ala Ile Lys Lys Lys Leu  
 115 120 125  
 Thr Gly Ile Lys His Glu Leu Gln Ala Asn Cys Tyr Glu Glu Val Lys  
 130 135 140  
 Asp Arg Cys Thr Leu Ala Glu Lys Leu Gly Gly Ser Ala Val Ile Ser  
 145 150 155 160  
 Leu Glu Gly Lys Pro Leu  
 165

<210> 22  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Peptidyl-prolyl cis-trans isomerase A  
 <222> (1)..(165)  
 <223> Accession NO: as of 09 Dec 2002: P05092  
 <400> 22

Met Val Asn Pro Thr Val Phe Phe Asp Ile Ala Val Asp Gly Glu Pro  
 1 5 10 15  
 Leu Gly Arg Val Ser Phe Glu Leu Phe Ala Asp Lys Val Pro Lys Thr  
 20 25 30  
 Ala Glu Asn Phe Arg Ala Leu Ser Thr Gly Glu Lys Gly Phe Gly Tyr  
 35 40 45  
 Lys Gly Ser Cys Phe His Arg Ile Ile Pro Gly Phe Met Cys Gln Gly  
 50 55 60  
 Gly Asp Phe Thr Arg His Asn Gly Thr Gly Gly Lys Ser Ile Tyr Gly  
 65 70 75 80  
 Glu Lys Phe Glu Asp Glu Asn Phe Ile Leu Lys His Thr Gly Pro Gly  
 85 90 95  
 Ile Leu Ser Met Ala Asn Ala Gly Pro Asn Thr Asn Gly Ser Gln Phe  
 100 105 110  
 Phe Ile Cys Thr Ala Lys Thr Glu Trp Leu Asp Gly Lys His Val Val

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Phe Gly Lys Val Lys Glu Gly Met Asn Ile Val Glu Ala Met Glu Arg |     |     |
| 130   | 135 | 140 |
| Phe Gly Ser Arg Asn Gly Lys Thr Ser Lys Lys Ile Thr Ile Ala Asp |     |     |
| 145   | 150 | 155 |
| Cys Gly Gln Leu Glu   |     | 160 |
| 165   |     |     |

<210> 23  
 <211> 638  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Dynein intermediate chain 2, cytosolic  
 <222> (1)..(638)  
 <223> Accession NO: as of 09 Dec 2002: Q13409  
 <400> 23

|   |     |     |
|---|-----|-----|
| Met Ser Asp Lys Ser Glu Leu Lys Ala Glu Leu Glu Arg Lys Lys Gln |     |     |
| 1   | 5   | 10  |
| Arg Leu Ala Gln Ile Arg Glu Glu Lys Lys Arg Lys Glu Glu Glu Arg |     |     |
| 20  | 25  | 30  |
| Lys Lys Lys Glu Thr Asp Gln Lys Lys Glu Ala Val Ala Pro Val Gln |     |     |
| 35  | 40  | 45  |
| Glu Glu Ser Asp Leu Glu Lys Lys Arg Arg Glu Ala Glu Ala Leu Leu |     |     |
| 50  | 55  | 60  |
| Gln Ser Met Gly Leu Thr Pro Glu Ser Pro Ile Val Phe Ser Glu Tyr |     |     |
| 65  | 70  | 75  |
| Trp Val Pro Pro Pro Met Ser Pro Ser Ser Lys Ser Val Ser Thr Pro |     |     |
| 85  | 90  | 95  |
| Ser Glu Ala Gly Ser Gln Asp Ser Gly Asp Gly Ala Val Gly Ser Arg |     |     |
| 100   | 105 | 110 |
| Thr Leu His Trp Asp Thr Asp Pro Ser Val Leu Gln Leu His Ser Asp |     |     |
| 115   | 120 | 125 |
| Ser Asp Leu Gly Arg Gly Pro Ile Lys Leu Gly Met Ala Lys Ile Thr |     |     |
| 130   | 135 | 140 |
| Gln Val Asp Phe Pro Pro Arg Glu Ile Val Thr Tyr Thr Lys Glu Thr |     |     |
| 145   | 150 | 155 |
| Gln Thr Pro Val Met Ala Gln Pro Lys Glu Asp Glu Glu Glu Asp Asp |     |     |
| 165   | 170 | 175 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Val | Val | Ala | Pro | Lys | Pro | Pro | Ile | Glu | Pro | Glu | Glu | Glu | Lys | Thr | 180 | 185 | 190 |
| Leu | Lys | Lys | Asp | Glu | Glu | Asn | Asp | Ser | Lys | Ala | Pro | Pro | His | Glu | Leu | 195 | 200 | 205 |
| Thr | Glu | Glu | Glu | Lys | Gln | Gln | Ile | Leu | His | Ser | Glu | Glu | Phe | Leu | Ser | 210 | 215 | 220 |
| Phe | Phe | Asp | His | Ser | Thr | Arg | Ile | Val | Glu | Arg | Ala | Leu | Ser | Glu | Gln | 225 | 230 | 235 |
| Ile | Asn | Ile | Phe | Phe | Asp | Tyr | Ser | Gly | Arg | Asp | Leu | Glu | Asp | Lys | Glu | 245 | 250 | 255 |
| Gly | Glu | Ile | Gln | Ala | Gly | Ala | Lys | Leu | Ser | Leu | Asn | Arg | Gln | Phe | Phe | 260 | 265 | 270 |
| Asp | Glu | Arg | Trp | Ser | Lys | His | Arg | Val | Val | Ser | Cys | Leu | Asp | Trp | Ser | 275 | 280 | 285 |
| Ser | Gln | Tyr | Pro | Glu | Leu | Leu | Val | Ala | Ser | Tyr | Asn | Asn | Asn | Glu | Asp | 290 | 295 | 300 |
| Ala | Pro | His | Glu | Pro | Asp | Gly | Val | Ala | Leu | Val | Trp | Asn | Met | Lys | Tyr | 305 | 310 | 315 |
| Lys | Lys | Thr | Thr | Pro | Glu | Tyr | Val | Phe | His | Cys | Gln | Ser | Ala | Val | Met | 325 | 330 | 335 |
| Ser | Ala | Thr | Phe | Ala | Lys | Phe | His | Pro | Asn | Leu | Val | Val | Gly | Gly | Thr | 340 | 345 | 350 |
| Tyr | Ser | Gly | Gln | Ile | Val | Leu | Trp | Asp | Asn | Arg | Ser | Asn | Lys | Arg | Thr | 355 | 360 | 365 |
| Pro | Val | Gln | Arg | Thr | Pro | Leu | Ser | Ala | Ala | Ala | His | Thr | His | Pro | Val | 370 | 375 | 380 |
| Tyr | Cys | Val | Asn | Val | Val | Gly | Thr | Gln | Asn | Ala | His | Asn | Leu | Ile | Ser | 385 | 390 | 395 |
| Ile | Ser | Thr | Asp | Gly | Lys | Ile | Cys | Ser | Trp | Ser | Leu | Asp | Met | Leu | Ser | 405 | 410 | 415 |
| His | Pro | Gln | Asp | Ser | Met | Glu | Leu | Val | His | Lys | Gln | Ser | Lys | Ala | Val | 420 | 425 | 430 |
| Ala | Val | Thr | Ser | Met | Ser | Phe | Pro | Val | Gly | Asp | Val | Asn | Asn | Phe | Val | 435 | 440 | 445 |
| Val | Gly | Ser | Glu | Glu | Gly | Ser | Val | Tyr | Thr | Ala | Cys | Arg | His | Gly | Ser | 450 | 455 | 460 |
| Lys | Ala | Gly | Ile | Ser | Glu | Met | Phe | Glu | Gly | His | Gln | Gly | Pro | Ile | Thr | 465 | 470 | 475 |
| Gly | Ile | His | Cys | His | Ala | Ala | Val | Gly | Ala | Val | Asp | Phe | Ser | His | Leu | 485 | 490 | 495 |
| Phe | Val | Thr | Ser | Ser | Phe | Asp | Trp | Thr | Val | Lys | Leu | Trp | Thr | Thr | Lys |     |     |     |





Ser Arg Asp Ala Asp Cys Arg Ala Val Val Ile Ser Gly Ala Gly Lys  
 100 105 110  
 Met Phe Thr Ala Gly Ile Asp Leu Met Asp Met Ala Ser Asp Ile Leu  
 115 120 125  
 Gln Pro Lys Gly Asp Asp Val Ala Arg Ile Ser Trp Tyr Leu Arg Asp  
 130 135 140  
 Ile Ile Thr Arg Tyr Gln Glu Thr Phe Asn Val Ile Glu Arg Cys Pro  
 145 150 155 160  
 Lys Pro Val Ile Ala Ala Val His Gly Gly Cys Ile Gly Gly Gly Val  
 165 170 175  
 Asp Leu Val Thr Ala Cys Asp Ile Arg Tyr Cys Ala Gln Asp Ala Phe  
 180 185 190  
 Phe Gln Val Lys Glu Val Asp Val Gly Leu Ala Ala Asp Val Gly Thr  
 195 200 205  
 Leu Glu Arg Leu Pro Lys Val Ile Gly Asn Gln Ser Leu Val Asn Glu  
 210 215 220  
 Leu Ala Phe Thr Ala His Lys Met Met Ala Asp Glu Ala Leu Asp Ser  
 225 230 235 240  
 Gly Leu Val Ser Arg Val Phe Pro Asp Lys Glu Val Met Leu Asp Ala  
 245 250 255  
 Ala Leu Pro Leu Ala Pro Glu Ile Ser Ser Lys Thr Thr Val Leu Val  
 260 265 270  
 Gln Ser Thr Lys Val Asn Leu Leu Tyr Ser Arg Asp His Ser Val Ala  
 275 280 285  
 Glu Ser Leu Asn Tyr Val Ala Ser Trp Asn Met Ser Met Leu Gln Thr  
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 <223> Accession NO: as of 09 Dec 2002: P46940  
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ala | Ala | Asp | Glu | Val | Asp | Gly | Leu | Gly | Val | Ala | Arg | Pro | His |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Gly | Ser | Val | Leu | Asp | Asn | Glu | Arg | Leu | Thr | Ala | Glu | Glu | Met | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Arg | Arg | Arg | Gln | Asn | Val | Ala | Tyr | Glu | Tyr | Leu | Cys | His | Leu | Glu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Ala | Lys | Arg | Trp | Met | Glu | Ala | Cys | Leu | Gly | Glu | Asp | Leu | Pro | Pro |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Thr | Glu | Leu | Glu | Glu | Gly | Leu | Arg | Asn | Gly | Val | Tyr | Leu | Ala | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Gly | Asn | Phe | Phe | Ser | Pro | Lys | Val | Val | Ser | Leu | Lys | Lys | Ile | Tyr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asp | Arg | Glu | Gln | Thr | Arg | Tyr | Lys | Ala | Thr | Gly | Leu | His | Phe | Arg | His |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Asp | Asn | Val | Ile | Gln | Trp | Leu | Asn | Ala | Met | Asp | Glu | Ile | Gly | Leu |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Lys | Ile | Phe | Tyr | Pro | Glu | Thr | Thr | Asp | Ile | Tyr | Asp | Arg | Lys | Asn |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Met | Pro | Arg | Cys | Ile | Tyr | Cys | Ile | His | Ala | Leu | Ser | Leu | Tyr | Leu | Phe |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Lys | Leu | Gly | Leu | Ala | Pro | Gln | Ile | Gln | Asp | Leu | Tyr | Gly | Lys | Val | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Phe | Thr | Glu | Glu | Glu | Ile | Asn | Asn | Met | Lys | Thr | Glu | Leu | Glu | Lys | Tyr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Ile | Gln | Met | Pro | Ala | Phe | Ser | Lys | Ile | Gly | Gly | Ile | Leu | Ala | Asn |
|     |     |     | 195 |     |     |     |     | 200 |     |     |     | 205 |     |     |     |
| Glu | Leu | Ser | Val | Asp | Glu | Ala | Ala | Leu | His | Ala | Ala | Val | Ile | Ala | Ile |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asn | Glu | Ala | Ile | Asp | Arg | Arg | Ile | Pro | Ala | Asp | Thr | Phe | Ala | Ala | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Lys | Asn | Pro | Asn | Ala | Met | Leu | Val | Asn | Leu | Glu | Glu | Pro | Leu | Ala | Ser |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Thr | Tyr | Gln | Asp | Ile | Leu | Tyr | Gln | Ala | Lys | Gln | Asp | Lys | Met | Thr | Asn |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ala | Lys | Asn | Arg | Thr | Glu | Asn | Ser | Glu | Arg | Glu | Arg | Asp | Val | Tyr | Glu |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Leu | Leu | Thr | Gln | Ala | Glu | Ile | Gln | Gly | Asn | Ile | Asn | Lys | Val | Asn |
|     |     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |
| Thr | Phe | Ser | Ala | Leu | Ala | Asn | Ile | Asp | Leu | Ala | Leu | Glu | Gln | Gly | Asp |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |

Ala Leu Ala Leu Phe Arg Ala Leu Gln Ser Pro Ala Leu Gly Leu Arg  
 325 330 335  
 Gly Leu Gln Gln Gln Asn Ser Asp Trp Tyr Leu Lys Gln Leu Leu Ser  
 340 345 350  
 Asp Lys Gln Gln Lys Arg Gln Ser Gly Gln Thr Asp Pro Leu Gln Lys  
 355 360 365  
 Glu Glu Leu Gln Ser Gly Val Asp Ala Ala Asn Ser Ala Ala Gln Gln  
 370 375 380  
 Tyr Gln Arg Arg Leu Ala Ala Val Ala Leu Ile Asn Ala Ala Ile Gln  
 385 390 395 400  
 Lys Gly Val Ala Glu Lys Thr Val Leu Glu Leu Met Asn Pro Glu Ala  
 405 410 415  
 Gln Leu Pro Gln Val Tyr Pro Phe Ala Ala Asp Leu Tyr Gln Lys Glu  
 420 425 430  
 Leu Ala Thr Leu Gln Arg Gln Ser Pro Glu His Asn Leu Thr His Pro  
 435 440 445  
 Glu Leu Ser Val Ala Val Glu Met Leu Ser Ser Val Ala Leu Ile Asn  
 450 455 460  
 Arg Ala Leu Glu Ser Gly Asp Val Asn Thr Val Trp Lys Gln Leu Ser  
 465 470 475 480  
 Ser Ser Val Thr Gly Leu Thr Asn Ile Glu Glu Glu Asn Cys Gln Arg  
 485 490 495  
 Tyr Leu Asp Glu Leu Met Lys Leu Lys Ala Gln Ala His Ala Glu Asn  
 500 505 510  
 Asn Glu Phe Ile Thr Trp Asn Asp Ile Gln Ala Cys Val Asp His Val  
 515 520 525  
 Asn Leu Val Val Gln Glu Glu His Glu Arg Ile Leu Ala Ile Gly Leu  
 530 535 540  
 Ile Asn Glu Ala Leu Asp Glu Gly Asp Ala Gln Lys Thr Leu Gln Ala  
 545 550 555 560  
 Leu Gln Ile Pro Ala Ala Lys Leu Glu Gly Val Leu Ala Glu Val Ala  
 565 570 575  
 Gln His Tyr Gln Asp Thr Leu Ile Arg Ala Lys Arg Glu Lys Ala Gln  
 580 585 590  
 Glu Ile Gln Asp Glu Ser Ala Val Leu Trp Leu Asp Glu Ile Gln Gly  
 595 600 605  
 Gly Ile Trp Gln Ser Asn Lys Asp Thr Gln Glu Ala Gln Lys Phe Ala  
 610 615 620  
 Leu Gly Ile Phe Ala Ile Asn Glu Ala Val Glu Ser Gly Asp Val Gly  
 625 630 635 640  
 Lys Thr Leu Ser Ala Leu Arg Ser Pro Asp Val Gly Leu Tyr Gly Val

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Pro | Glu | Cys | Gly | Glu | Thr | Tyr | His | Ser | Asp | Leu | Ala | Glu | Ala | Lys |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |
| Lys | Lys | Lys | Leu | Ala | Val | Gly | Asp | Asn | Asn | Ser | Lys | Trp | Val | Lys | His |
|     |     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |
| Trp | Val | Lys | Gly | Gly | Tyr | Tyr | Tyr | Tyr | His | Asn | Leu | Glu | Thr | Gln | Glu |
|     |     |     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |
| Gly | Gly | Trp | Asp | Glu | Pro | Pro | Asn | Phe | Val | Gln | Asn | Ser | Met | Gln | Leu |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |
| Ser | Arg | Glu | Glu | Ile | Gln | Ser | Ser | Ile | Ser | Gly | Val | Thr | Ala | Ala | Tyr |
|     |     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | 735 |
| Asn | Arg | Glu | Gln | Leu | Trp | Leu | Ala | Asn | Glu | Gly | Leu | Ile | Thr | Arg | Leu |
|     |     |     |     | 740 |     |     |     |     |     | 745 |     |     |     |     | 750 |
| Gln | Ala | Arg | Cys | Arg | Gly | Tyr | Leu | Val | Arg | Gln | Glu | Phe | Arg | Ser | Arg |
|     |     |     |     | 755 |     |     |     |     |     | 760 |     |     |     |     | 765 |
| Met | Asn | Phe | Leu | Lys | Lys | Gln | Ile | Pro | Ala | Ile | Thr | Cys | Ile | Gln | Ser |
|     |     |     |     | 770 |     |     |     |     |     | 775 |     |     |     |     | 780 |
| Gln | Trp | Arg | Gly | Tyr | Lys | Gln | Lys | Lys | Ala | Tyr | Gln | Asp | Arg | Leu | Ala |
| 785 |     |     |     |     | 790 |     |     |     |     |     | 795 |     |     |     | 800 |
| Tyr | Leu | Arg | Ser | His | Lys | Asp | Glu | Val | Val | Lys | Ile | Gln | Ser | Leu | Ala |
|     |     |     |     | 805 |     |     |     |     |     | 810 |     |     |     |     | 815 |
| Arg | Met | His | Gln | Ala | Arg | Lys | Arg | Tyr | Arg | Asp | Arg | Leu | Gln | Tyr | Phe |
|     |     |     |     | 820 |     |     |     |     |     | 825 |     |     |     |     | 830 |
| Arg | Asp | His | Ile | Asn | Asp | Ile | Ile | Lys | Ile | Gln | Ala | Phe | Ile | Arg | Ala |
|     |     |     |     | 835 |     |     |     |     |     | 840 |     |     |     |     | 845 |
| Asn | Lys | Ala | Arg | Asp | Asp | Tyr | Lys | Thr | Leu | Ile | Asn | Ala | Glu | Asp | Pro |
|     |     |     |     | 850 |     |     |     |     |     | 855 |     |     |     |     | 860 |
| Pro | Met | Val | Val | Val | Arg | Lys | Phe | Val | His | Leu | Leu | Asp | Gln | Ser | Asp |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |
| Gln | Asp | Phe | Gln | Glu | Glu | Leu | Asp | Leu | Met | Lys | Met | Arg | Glu | Glu | Val |
|     |     |     |     | 885 |     |     |     |     |     | 890 |     |     |     |     | 895 |
| Ile | Thr | Leu | Ile | Arg | Ser | Asn | Gln | Gln | Leu | Glu | Asn | Asp | Leu | Asn | Leu |
|     |     |     |     | 900 |     |     |     |     |     | 905 |     |     |     |     | 910 |
| Met | Asp | Ile | Lys | Ile | Gly | Leu | Leu | Val | Lys | Asn | Lys | Ile | Thr | Leu | Gln |
|     |     |     |     | 915 |     |     |     |     |     | 920 |     |     |     |     | 925 |
| Asp | Val | Val | Ser | His | Ser | Lys | Lys | Leu | Thr | Lys | Lys | Asn | Lys | Glu | Gln |
|     |     |     |     | 930 |     |     |     |     |     | 935 |     |     |     |     | 940 |
| Leu | Ser | Asp | Met | Met | Met | Ile | Asn | Lys | Gln | Lys | Gly | Gly | Leu | Lys | Ala |
| 945 |     |     |     |     | 950 |     |     |     |     | 955 |     |     |     |     | 960 |
| Leu | Ser | Lys | Glu | Lys | Arg | Glu | Lys | Leu | Glu | Ala | Tyr | Gln | His | Leu | Phe |
|     |     |     |     | 965 |     |     |     |     |     | 970 |     |     |     |     | 975 |

|     |      |     |     |     |     |     |      |      |     |     |     |      |      |     |     |
|-----|------|-----|-----|-----|-----|-----|------|------|-----|-----|-----|------|------|-----|-----|
| Tyr | Leu  | Leu | Gln | Thr | Asn | Pro | Thr  | Tyr  | Leu | Ala | Lys | Leu  | Ile  | Phe | Gln |
|     |      |     | 980 |     |     |     |      | 985  |     |     |     |      | 990  |     |     |
| Met | Pro  | Gln | Asn | Lys | Ser | Thr | Lys  | Phe  | Met | Asp | Ser | Val  | Ile  | Phe | Thr |
|     |      |     | 995 |     |     |     |      | 1000 |     |     |     |      | 1005 |     |     |
| Leu | Tyr  | Asn | Tyr | Ala | Ser | Asn | Gln  | Arg  | Glu | Glu | Tyr | Leu  | Leu  | Leu |     |
|     | 1010 |     |     |     |     |     | 1015 |      |     |     |     | 1020 |      |     |     |
| Arg | Leu  | Phe | Lys | Thr | Ala | Leu | Gln  | Glu  | Glu | Ile | Lys | Ser  | Lys  | Val |     |
|     | 1025 |     |     |     |     |     | 1030 |      |     |     |     | 1035 |      |     |     |
| Asp | Gln  | Ile | Gln | Glu | Ile | Val | Thr  | Gly  | Asn | Pro | Thr | Val  | Ile  | Lys |     |
|     | 1040 |     |     |     |     |     | 1045 |      |     |     |     | 1050 |      |     |     |
| Met | Val  | Val | Ser | Phe | Asn | Arg | Gly  | Ala  | Arg | Gly | Gln | Asn  | Ala  | Leu |     |
|     | 1055 |     |     |     |     |     | 1060 |      |     |     |     | 1065 |      |     |     |
| Arg | Gln  | Ile | Leu | Ala | Pro | Val | Val  | Lys  | Glu | Ile | Met | Asp  | Asp  | Lys |     |
|     | 1070 |     |     |     |     |     | 1075 |      |     |     |     | 1080 |      |     |     |
| Ser | Leu  | Asn | Ile | Lys | Thr | Asp | Pro  | Val  | Asp | Ile | Tyr | Lys  | Ser  | Trp |     |
|     | 1085 |     |     |     |     |     | 1090 |      |     |     |     | 1095 |      |     |     |
| Val | Asn  | Gln | Met | Glu | Ser | Gln | Thr  | Gly  | Glu | Ala | Ser | Lys  | Leu  | Pro |     |
|     | 1100 |     |     |     |     |     | 1105 |      |     |     |     | 1110 |      |     |     |
| Tyr | Asp  | Val | Thr | Pro | Glu | Gln | Ala  | Leu  | Ala | His | Glu | Glu  | Val  | Lys |     |
|     | 1115 |     |     |     |     |     | 1120 |      |     |     |     | 1125 |      |     |     |
| Thr | Arg  | Leu | Asp | Ser | Ser | Ile | Arg  | Asn  | Met | Arg | Ala | Val  | Thr  | Asp |     |
|     | 1130 |     |     |     |     |     | 1135 |      |     |     |     | 1140 |      |     |     |
| Lys | Phe  | Leu | Ser | Ala | Ile | Val | Ser  | Ser  | Val | Asp | Lys | Ile  | Pro  | Tyr |     |
|     | 1145 |     |     |     |     |     | 1150 |      |     |     |     | 1155 |      |     |     |
| Gly | Met  | Arg | Phe | Ile | Ala | Lys | Val  | Leu  | Lys | Asp | Ser | Leu  | His  | Glu |     |
|     | 1160 |     |     |     |     |     | 1165 |      |     |     |     | 1170 |      |     |     |
| Lys | Phe  | Pro | Asp | Ala | Gly | Glu | Asp  | Glu  | Leu | Leu | Lys | Ile  | Ile  | Gly |     |
|     | 1175 |     |     |     |     |     | 1180 |      |     |     |     | 1185 |      |     |     |
| Asn | Leu  | Leu | Tyr | Tyr | Arg | Tyr | Met  | Asn  | Pro | Ala | Ile | Val  | Ala  | Pro |     |
|     | 1190 |     |     |     |     |     | 1195 |      |     |     |     | 1200 |      |     |     |
| Asp | Ala  | Phe | Asp | Ile | Ile | Asp | Leu  | Ser  | Ala | Gly | Gly | Gln  | Leu  | Thr |     |
|     | 1205 |     |     |     |     |     | 1210 |      |     |     |     | 1215 |      |     |     |
| Thr | Asp  | Gln | Arg | Arg | Asn | Leu | Gly  | Ser  | Ile | Ala | Lys | Met  | Leu  | Gln |     |
|     | 1220 |     |     |     |     |     | 1225 |      |     |     |     | 1230 |      |     |     |
| His | Ala  | Ala | Ser | Asn | Lys | Met | Phe  | Leu  | Gly | Asp | Asn | Ala  | His  | Leu |     |
|     | 1235 |     |     |     |     |     | 1240 |      |     |     |     | 1245 |      |     |     |
| Ser | Ile  | Ile | Asn | Glu | Tyr | Leu | Ser  | Gln  | Ser | Tyr | Gln | Lys  | Phe  | Arg |     |
|     | 1250 |     |     |     |     |     | 1255 |      |     |     |     | 1260 |      |     |     |
| Arg | Phe  | Phe | Gln | Thr | Ala | Cys | Asp  | Val  | Pro | Glu | Leu | Gln  | Asp  | Lys |     |
|     | 1265 |     |     |     |     |     | 1270 |      |     |     |     | 1275 |      |     |     |
| Phe | Asn  | Val | Asp | Glu | Tyr | Ser | Asp  | Leu  | Val | Thr | Leu | Thr  | Lys  | Pro |     |

|                             |                     |             |
|-----------------------------|---------------------|-------------|
| 1280                        | 1285                | 1290        |
| Val Ile Tyr Ile Ser Ile Gly | Glu Ile Ile Asn Thr | His Thr Leu |
| 1295                        | 1300                | 1305        |
| Leu Leu Asp His Gln Asp Ala | Ile Ala Pro Glu His | Asn Asp Pro |
| 1310                        | 1315                | 1320        |
| Ile His Glu Leu Leu Asp Asp | Leu Gly Glu Val Pro | Thr Ile Glu |
| 1325                        | 1330                | 1335        |
| Ser Leu Ile Gly Glu Ser Ser | Gly Asn Leu Asn Asp | Pro Asn Lys |
| 1340                        | 1345                | 1350        |
| Glu Ala Leu Ala Lys Thr Glu | Val Ser Leu Thr Leu | Thr Asn Lys |
| 1355                        | 1360                | 1365        |
| Phe Asp Val Pro Gly Asp Glu | Asn Ala Glu Met Asp | Ala Arg Thr |
| 1370                        | 1375                | 1380        |
| Ile Leu Leu Asn Thr Lys Arg | Leu Ile Val Asp Val | Ile Arg Phe |
| 1385                        | 1390                | 1395        |
| Gln Pro Gly Glu Thr Leu Thr | Glu Ile Leu Glu Thr | Pro Ala Thr |
| 1400                        | 1405                | 1410        |
| Ser Glu Gln Glu Ala Glu His | Gln Arg Ala Met Gln | Arg Arg Ala |
| 1415                        | 1420                | 1425        |
| Ile Arg Asp Ala Lys Thr Pro | Asp Lys Met Lys Lys | Ser Lys Ser |
| 1430                        | 1435                | 1440        |
| Val Lys Glu Asp Ser Asn Leu | Thr Leu Gln Glu Lys | Lys Glu Lys |
| 1445                        | 1450                | 1455        |
| Ile Gln Thr Gly Leu Lys Lys | Leu Thr Glu Leu Gly | Thr Val Asp |
| 1460                        | 1465                | 1470        |
| Pro Lys Asn Lys Tyr Gln Glu | Leu Ile Asn Asp Ile | Ala Arg Asp |
| 1475                        | 1480                | 1485        |
| Ile Arg Asn Gln Arg Arg Tyr | Arg Gln Arg Arg Lys | Ala Glu Leu |
| 1490                        | 1495                | 1500        |
| Val Lys Leu Gln Gln Thr Tyr | Ala Ala Leu Asn Ser | Lys Ala Thr |
| 1505                        | 1510                | 1515        |
| Phe Tyr Gly Glu Gln Val Asp | Tyr Tyr Lys Ser Tyr | Ile Lys Thr |
| 1520                        | 1525                | 1530        |
| Cys Leu Asp Asn Leu Ala Ser | Lys Gly Lys Val Ser | Lys Lys Pro |
| 1535                        | 1540                | 1545        |
| Arg Glu Met Lys Gly Lys Lys | Ser Lys Lys Ile Ser | Leu Lys Tyr |
| 1550                        | 1555                | 1560        |
| Thr Ala Ala Arg Leu His Glu | Lys Gly Val Leu Leu | Glu Ile Glu |
| 1565                        | 1570                | 1575        |
| Asp Leu Gln Val Asn Gln Phe | Lys Asn Val Ile Phe | Glu Ile Ser |
| 1580                        | 1585                | 1590        |

|         |                     |                     |             |
|---------|---------------------|---------------------|-------------|
| Pro Thr | Glu Glu Val Gly Asp | Phe Glu Val Lys Ala | Lys Phe Met |
| 1595    | 1600                | 1605                |             |
| Gly Val | Gln Met Glu Thr Phe | Met Leu His Tyr Gln | Asp Leu Leu |
| 1610    | 1615                | 1620                |             |
| Gln Leu | Gln Tyr Glu Gly Val | Ala Val Met Lys Leu | Phe Asp Arg |
| 1625    | 1630                | 1635                |             |
| Ala Lys | Val Asn Val Asn Leu | Leu Ile Phe Leu Leu | Asn Lys Lys |
| 1640    | 1645                | 1650                |             |
| Phe Tyr | Gly Lys             |                     |             |
| 1655    |                     |                     |             |

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 <222> (1)..(627)  
 <223> Accession NO: as of 09 Dec 2002: P13796

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| Ala Phe Ala Lys Val Asp Thr Asp Gly Asn Gly Tyr Ile Ser Phe Asn |     |     |     |
|   | 20  | 25  | 30  |
| Glu Leu Asn Asp Leu Phe Lys Ala Ala Cys Leu Pro Leu Pro Gly Tyr |     |     |     |
|   | 35  | 40  | 45  |
| Arg Val Arg Glu Ile Thr Glu Asn Leu Met Ala Thr Gly Asp Leu Asp |     |     |     |
|   | 50  | 55  | 60  |
| Gln Asp Gly Arg Ile Ser Phe Asp Glu Phe Ile Lys Ile Phe His Gly |     |     |     |
| 65  | 70  | 75  | 80  |
| Leu Lys Ser Thr Asp Val Ala Lys Thr Phe Arg Lys Ala Ile Asn Lys |     |     |     |
|   | 85  | 90  | 95  |
| Lys Glu Gly Ile Cys Ala Ile Gly Gly Thr Ser Glu Gln Ser Ser Val |     |     |     |
|   | 100 | 105 | 110 |
| Gly Thr Gln His Ser Tyr Ser Glu Glu Glu Lys Tyr Ala Phe Val Asn |     |     |     |
|   | 115 | 120 | 125 |
| Trp Ile Asn Lys Ala Leu Glu Asn Asp Pro Asp Cys Arg His Val Ile |     |     |     |
| 130   | 135 | 140 |     |

Pro Met Asn Pro Asn Thr Asn Asp Leu Phe Asn Ala Val Gly Asp Gly  
 145 150 155 160  
 Ile Val Leu Cys Lys Met Ile Asn Leu Ser Val Pro Asp Thr Ile Asp  
 165 170 175  
 Glu Arg Thr Ile Asn Lys Lys Lys Leu Thr Pro Phe Thr Ile Gln Glu  
 180 185 190  
 Asn Leu Asn Leu Ala Leu Asn Ser Ala Ser Ala Ile Gly Cys His Val  
 195 200 205  
 Val Asn Ile Gly Ala Glu Asp Leu Lys Glu Gly Lys Pro Tyr Leu Val  
 210 215 220  
 Leu Gly Leu Leu Trp Gln Val Ile Lys Ile Gly Leu Phe Ala Asp Ile  
 225 230 235 240  
 Glu Leu Ser Arg Asn Glu Ala Leu Ile Ala Leu Leu Arg Glu Gly Glu  
 245 250 255  
 Ser Leu Glu Asp Leu Met Lys Leu Ser Pro Glu Glu Leu Leu Leu Arg  
 260 265 270  
 Trp Ala Asn Tyr His Leu Glu Asn Ala Gly Cys Asn Lys Ile Gly Asn  
 275 280 285  
 Phe Ser Thr Asp Ile Lys Asp Ser Lys Ala Tyr Tyr His Leu Leu Glu  
 290 295 300  
 Gln Val Ala Pro Lys Gly Asp Glu Glu Gly Val Pro Ala Val Val Ile  
 305 310 315 320  
 Asp Met Ser Gly Leu Arg Glu Lys Asp Asp Ile Gln Arg Ala Glu Cys  
 325 330 335  
 Met Leu Gln Gln Ala Glu Arg Leu Gly Cys Arg Gln Phe Val Thr Ala  
 340 345 350  
 Thr Asp Val Val Arg Gly Asn Pro Lys Leu Asn Leu Ala Phe Ile Ala  
 355 360 365  
 Asn Leu Phe Asn Arg Tyr Pro Ala Leu His Lys Pro Glu Asn Gln Asp  
 370 375 380  
 Ile Asp Trp Gly Ala Leu Glu Gly Glu Thr Arg Glu Glu Arg Thr Phe  
 385 390 395 400  
 Arg Asn Trp Met Asn Ser Leu Gly Val Asn Pro Arg Val Asn His Leu  
 405 410 415  
 Tyr Ser Asp Leu Ser Asp Ala Leu Val Ile Phe Gln Leu Tyr Glu Lys  
 420 425 430  
 Ile Lys Val Pro Val Asp Trp Asn Arg Val Asn Lys Pro Pro Tyr Pro  
 435 440 445  
 Lys Leu Gly Gly Asn Met Lys Lys Leu Glu Asn Cys Asn Tyr Ala Val  
 450 455 460  
 Glu Leu Gly Lys Asn Gln Ala Lys Phe Ser Leu Val Gly Ile Gly Gly



465                      470                      475                      480  
 Gln Asp Leu Asn Glu Gly Asn Arg Thr Leu Thr Leu Ala Leu Ile Trp  
                                  485                      490                      495  
 Gln Leu Met Arg Arg Tyr Thr Leu Asn Ile Leu Glu Glu Ile Gly Gly  
                                  500                      505                      510  
 Gly Gln Lys Val Asn Asp Asp Ile Ile Val Asn Trp Val Asn Glu Thr  
                                  515                      520                      525  
 Leu Arg Glu Ala Glu Lys Ser Ser Ser Ile Ser Ser Phe Lys Asp Pro  
                                  530                      535                      540  
 Lys Ile Ser Thr Ser Leu Pro Val Leu Asp Leu Ile Asp Ala Ile Gln  
 545                      550                      555                      560  
 Pro Gly Ser Ile Asn Tyr Asp Leu Leu Lys Thr Glu Asn Leu Asn Asp  
                                  565                      570                      575  
 Asp Glu Lys Leu Asn Asn Ala Lys Tyr Ala Ile Ser Met Ala Arg Lys  
                                  580                      585                      590  
 Ile Gly Ala Arg Val Tyr Ala Leu Pro Glu Asp Leu Val Glu Val Asn  
                                  595                      600                      605  
 Pro Lys Met Val Met Thr Val Phe Ala Cys Leu Met Gly Lys Gly Met  
                                  610                      615                      620  
 Lys Arg Val  
 625

<210> 27  
 <211> 216  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> GTP-binding nuclear protein RAN  
 <222> (1)..(216)  
 <223> Accession NO: as of 09 Dec 2002: P17080  
 <400> 27

Met Ala Ala Gln Gly Glu Pro Gln Val Gln Phe Lys Leu Val Leu Val  
 1                      5                      10                      15  
 Gly Asp Gly Gly Thr Gly Lys Thr Thr Phe Val Lys Arg His Leu Thr  
                                  20                      25                      30  
 Gly Glu Phe Glu Lys Lys Tyr Val Ala Thr Leu Gly Val Glu Val His  
                                  35                      40                      45  
 Pro Leu Val Phe His Thr Asn Arg Gly Pro Ile Lys Phe Asn Val Trp  
                                  50                      55                      60

Asp Thr Ala Gly Gln Glu Lys Phe Gly Gly Leu Arg Asp Gly Tyr Tyr  
 65 70 75 80  
 Ile Gln Ala Gln Cys Ala Ile Ile Met Phe Asp Val Thr Ser Arg Val  
 85 90 95  
 Thr Tyr Lys Asn Val Pro Asn Trp His Arg Asp Leu Val Arg Val Cys  
 100 105 110  
 Glu Asn Ile Pro Ile Val Leu Cys Gly Asn Lys Val Asp Ile Lys Asp  
 115 120 125  
 Arg Lys Val Lys Ala Lys Ser Ile Val Phe His Arg Lys Lys Asn Leu  
 130 135 140  
 Gln Tyr Tyr Asp Ile Ser Ala Lys Ser Asn Tyr Asn Phe Glu Lys Pro  
 145 150 155 160  
 Phe Leu Trp Leu Ala Arg Lys Leu Ile Gly Asp Pro Asn Leu Glu Phe  
 165 170 175  
 Val Ala Met Pro Ala Leu Ala Pro Pro Glu Val Val Met Asp Pro Ala  
 180 185 190  
 Leu Ala Ala Gln Tyr Glu His Asp Leu Glu Val Ala Gln Thr Thr Ala  
 195 200 205  
 Leu Pro Asp Glu Asp Asp Asp Leu  
 325 215

<210> 28  
 <211> 463  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Heterogeneous nuclear ribonucleoprotein K  
 <222> (1)..(463)  
 <223> Accession NO: as of 09 Dec 2002: Q07244  
 <400> 28

Met Glu Thr Glu Gln Pro Glu Glu Thr Phe Pro Asn Thr Glu Thr Asn  
 1 5 10 15  
 Gly Glu Phe Gly Lys Arg Pro Ala Glu Asp Met Glu Glu Glu Gln Ala  
 20 25 30  
 Phe Lys Arg Ser Arg Asn Thr Asp Glu Met Val Glu Leu Arg Ile Leu  
 35 40 45  
 Leu Gln Ser Lys Asn Ala Gly Ala Val Ile Gly Lys Gly Gly Lys Asn  
 50 55 60  
 Ile Lys Ala Leu Arg Thr Asp Tyr Asn Ala Ser Val Ser Val Pro Asp

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Ser | Gly | Pro | Glu | Arg | Ile | Leu | Ser | Ile | Ser | Ala | Asp | Ile | Glu | Thr |
|     |     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |
| Ile | Gly | Glu | Ile | Leu | Lys | Lys | Ile | Ile | Pro | Thr | Leu | Glu | Glu | Gly | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Leu | Pro | Ser | Pro | Thr | Ala | Thr | Ser | Gln | Leu | Pro | Leu | Glu | Ser | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Val | Glu | Cys | Leu | Asn | Tyr | Gln | His | Tyr | Lys | Gly | Ser | Asp | Phe | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Cys | Glu | Leu | Arg | Leu | Leu | Ile | His | Gln | Ser | Leu | Ala | Gly | Gly | Ile | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Val | Lys | Gly | Ala | Lys | Ile | Lys | Glu | Leu | Arg | Glu | Asn | Thr | Gln | Thr |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Thr | Ile | Lys | Leu | Phe | Gln | Glu | Cys | Cys | Pro | His | Ser | Thr | Asp | Arg | Val |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Val | Leu | Ile | Gly | Gly | Lys | Pro | Asp | Arg | Val | Val | Glu | Cys | Ile | Lys | Ile |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ile | Leu | Asp | Leu | Ile | Ser | Glu | Ser | Pro | Ile | Lys | Gly | Arg | Ala | Gln | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Tyr | Asp | Pro | Asn | Phe | Tyr | Asp | Glu | Thr | Tyr | Asp | Tyr | Gly | Gly | Phe | Thr |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |
| Met | Met | Phe | Asp | Asp | Arg | Arg | Gly | Arg | Pro | Val | Gly | Phe | Pro | Met | Arg |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gly | Arg | Gly | Gly | Phe | Asp | Arg | Met | Pro | Pro | Gly | Arg | Gly | Gly | Arg | Pro |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Met | Pro | Pro | Ser | Arg | Arg | Asp | Tyr | Asp | Asp | Met | Ser | Pro | Arg | Arg | Gly |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Pro | Pro | Pro | Pro | Pro | Gly | Arg | Gly | Gly | Arg | Gly | Gly | Ser | Arg | Ala |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Arg | Asn | Leu | Pro | Leu | Pro | Pro | Pro | Pro | Pro | Pro | Arg | Gly | Gly | Asp | Leu |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |
| Met | Ala | Tyr | Asp | Arg | Arg | Gly | Arg | Pro | Gly | Asp | Arg | Tyr | Asp | Gly | Met |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Val | Gly | Phe | Ser | Ala | Asp | Glu | Thr | Trp | Asp | Ser | Ala | Ile | Asp | Thr | Trp |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ser | Pro | Ser | Glu | Trp | Gln | Met | Ala | Tyr | Glu | Pro | Gln | Gly | Gly | Ser | Gly |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| Tyr | Asp | Tyr | Ser | Tyr | Ala | Gly | Gly | Arg | Gly | Ser | Tyr | Gly | Asp | Leu | Gly |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |
| Gly | Pro | Ile | Ile | Thr | Thr | Gln | Val | Thr | Ile | Pro | Lys | Asp | Leu | Ala | Gly |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     | 400 |

Ser Ile Ile Gly Lys Gly Gly Gln Arg Ile Lys Gln Ile Arg His Glu  
405 410 415  
Ser Gly Ala Ser Ile Lys Ile Asp Glu Pro Leu Glu Gly Ser Glu Asp  
420 425 430  
Arg Ile Ile Thr Ile Thr Gly Thr Gln Asp Gln Ile Gln Asn Ala Gln  
435 440 445  
Tyr Leu Leu Gln Asn Ser Val Lys Gln Tyr Ser Gly Lys Phe Phe  
450 455 460

<210> 29  
<211> 172  
<212> PRT  
<213> Homo sapiens  
<220>  
<221> Translationally controlled tumor protein (TCTP)  
<222> (1)..(172)  
<223> Accession NO: as of 09 Dec 2002: P13693  
<400> 29

Met Ile Ile Tyr Arg Asp Leu Ile Ser His Asp Glu Met Phe Ser Asp  
1 5 10 15  
Ile Tyr Lys Ile Arg Glu Ile Ala Asp Gly Leu Cys Leu Glu Val Glu  
20 25 30  
Gly Lys Met Val Ser Arg Thr Glu Gly Asn Ile Asp Asp Ser Leu Ile  
35 40 45  
Gly Gly Asn Ala Ser Ala Glu Gly Pro Glu Gly Glu Gly Thr Glu Ser  
50 55 60  
Thr Val Ile Thr Gly Val Asp Ile Val Met Asn His His Leu Gln Glu  
65 70 75 80  
Thr Ser Phe Thr Lys Glu Ala Tyr Lys Lys Tyr Ile Lys Asp Tyr Met  
85 90 95  
Lys Ser Ile Lys Gly Lys Leu Glu Glu Gln Arg Pro Glu Arg Val Lys  
100 105 110  
Pro Phe Met Thr Gly Ala Ala Glu Gln Ile Lys His Ile Leu Ala Asn  
115 120 125  
Phe Lys Asn Tyr Gln Phe Phe Ile Gly Glu Asn Met Asn Pro Asp Gly  
130 135 140  
Met Val Ala Leu Leu Asp Tyr Arg Glu Asp Gly Val Thr Pro Tyr Met  
145 150 155 160  
Ile Phe Phe Lys Asp Gly Leu Glu Met Glu Lys Cys

325

170

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<210> 30
<211> 284
<212> PRT
<213> Homo sapiens
<220>
<221> Tropomyosin 1 alpha chain
<222> (1)..(284)
<223> Accession NO: as of 06 Dec 2002: P09493
<400> 30
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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Ala | Ile | Lys | Lys | Lys | Met | Gln | Met | Leu | Lys | Leu | Asp | Lys | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Ala | Leu | Asp | Arg | Ala | Glu | Gln | Ala | Glu | Ala | Asp | Lys | Lys | Ala | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Asp | Arg | Ser | Lys | Gln | Leu | Glu | Asp | Glu | Leu | Val | Ser | Leu | Gln | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Leu | Lys | Gly | Thr | Glu | Asp | Glu | Leu | Asp | Lys | Tyr | Ser | Glu | Ala | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Lys | Asp | Ala | Gln | Glu | Lys | Leu | Glu | Leu | Ala | Glu | Lys | Lys | Ala | Thr | Asp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ala | Glu | Ala | Asp | Val | Ala | Ser | Leu | Asn | Arg | Arg | Ile | Gln | Leu | Val | Glu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Glu | Glu | Leu | Asp | Arg | Ala | Gln | Glu | Arg | Leu | Ala | Thr | Ala | Leu | Gln | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Leu | Glu | Glu | Ala | Glu | Lys | Ala | Ala | Asp | Glu | Ser | Glu | Arg | Gly | Met | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Ile | Glu | Ser | Arg | Ala | Gln | Lys | Asp | Glu | Glu | Lys | Met | Glu | Ile | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Ile | Gln | Leu | Lys | Glu | Ala | Lys | His | Ile | Ala | Glu | Asp | Ala | Asp | Arg |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Lys | Tyr | Glu | Glu | Val | Ala | Arg | Lys | Leu | Val | Ile | Ile | Glu | Ser | Asp | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Glu | Arg | Ala | Glu | Glu | Arg | Ala | Glu | Leu | Ser | Glu | Gly | Lys | Cys | Ala | Glu |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Glu | Glu | Glu | Leu | Lys | Thr | Val | Thr | Asn | Asn | Leu | Lys | Ser | Leu | Glu |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Gln | Ala | Glu | Lys | Tyr | Ser | Gln | Lys | Glu | Asp | Arg | Tyr | Glu | Glu | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |

Ile Lys Val Leu Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu  
 225 230 235 240  
 Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu  
 245 250 255  
 Glu Asp Glu Leu Tyr Ala Gln Lys Leu Lys Tyr Lys Ala Ile Ser Glu  
 260 265 270  
 Glu Leu Asp His Ala Leu Asn Asp Met Thr Ser Ile  
 325 280

<210> 31  
 <211> 482  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Thymidine phosphorylase precursor  
 <222> (1)..(482)  
 <223> Accession NO: as of 09 Dec 2002: P19971  
 <400> 31

Met Ala Ala Leu Met Thr Pro Gly Thr Gly Ala Pro Pro Ala Pro Gly  
 1 5 10 15  
 Asp Phe Ser Gly Glu Gly Ser Gln Gly Leu Pro Asp Pro Ser Pro Glu  
 20 25 30  
 Pro Lys Gln Leu Pro Glu Leu Ile Arg Met Lys Arg Asp Gly Gly Arg  
 35 40 45  
 Leu Ser Glu Ala Asp Ile Arg Gly Phe Val Ala Ala Val Val Asn Gly  
 50 55 60  
 Ser Ala Gln Gly Ala Gln Ile Gly Ala Met Leu Met Ala Ile Arg Leu  
 65 70 75 80  
 Arg Gly Met Asp Leu Glu Glu Thr Ser Val Leu Thr Gln Ala Leu Ala  
 85 90 95  
 Gln Ser Gly Gln Gln Leu Glu Trp Pro Glu Ala Trp Arg Gln Gln Leu  
 100 105 110  
 Val Asp Lys His Ser Thr Gly Gly Val Gly Asp Lys Val Ser Leu Val  
 115 120 125  
 Leu Ala Pro Ala Leu Ala Ala Cys Gly Cys Lys Val Pro Met Ile Ser  
 130 135 140  
 Gly Arg Gly Leu Gly His Thr Gly Gly Thr Leu Asp Lys Leu Glu Ser  
 145 150 155 160  
 Ile Pro Gly Phe Asn Val Ile Gln Ser Pro Glu Gln Met Gln Val Leu



<210> 32  
 <211> 488  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Cytosol aminopeptidase  
 <222> (1)..(488)  
 <223> Accession NO: as of 09 Dec 2002: P28838  
 <400> 32

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Met Thr Lys Gly Leu Val Leu Gly Ile Tyr Ser Lys Glu Lys Glu Asp
1              5              10              15
Asp Val Pro Gln Phe Thr Ser Ala Gly Glu Asn Phe Asp Lys Leu Leu
              20              25              30
Ala Gly Lys Leu Arg Glu Thr Leu Asn Ile Ser Gly Pro Pro Leu Lys
              35              40              45
Ala Gly Lys Thr Arg Thr Phe Tyr Gly Leu His Gln Asp Phe Pro Ser
              50              55              60
Val Val Leu Val Gly Leu Gly Lys Lys Ala Ala Gly Ile Asp Glu Gln
65              70              75              80
Glu Asn Trp His Glu Gly Lys Glu Asn Ile Arg Ala Ala Val Ala Ala
              85              90              95
Gly Cys Arg Gln Ile Gln Asp Leu Glu Leu Ser Ser Val Glu Val Asp
              100             105             110
Pro Cys Gly Asp Ala Gln Ala Ala Ala Glu Gly Ala Val Leu Gly Leu
              115             120             125
Tyr Glu Tyr Asp Asp Leu Lys Gln Lys Lys Lys Met Ala Val Ser Ala
              130             135             140
Lys Leu Tyr Gly Ser Gly Asp Gln Glu Ala Trp Gln Lys Gly Val Leu
145             150             155             160
Phe Ala Ser Gly Gln Asn Leu Ala Arg Gln Leu Met Glu Thr Pro Ala
              165             170             175
Asn Glu Met Thr Pro Thr Arg Phe Ala Glu Ile Ile Glu Lys Asn Leu
              180             185             190
Lys Ser Ala Ser Ser Lys Thr Glu Val His Ile Arg Pro Lys Ser Trp
              195             200             205
Ile Glu Glu Gln Ala Met Gly Ser Phe Leu Ser Val Ala Lys Gly Ser
              210             215             220
Asp Glu Pro Pro Val Phe Leu Glu Ile His Tyr Lys Gly Ser Pro Asn
  
```



|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| 225   |     | 230 |     | 235 |     | 240 |
| Ala Asn Glu Pro Pro Leu Val Phe Val Gly Lys Gly Ile Thr Phe Asp |     |     |     |     |     |     |
|   | 245 |     | 250 |     | 255 |     |
| Ser Gly Gly Ile Ser Ile Lys Ala Ser Ala Asn Met Asp Leu Met Arg |     |     |     |     |     |     |
|   | 260 |     | 265 |     | 270 |     |
| Ala Asp Met Gly Gly Ala Ala Thr Ile Cys Ser Ala Ile Val Ser Ala |     |     |     |     |     |     |
|   | 275 |     | 280 |     | 285 |     |
| Ala Lys Leu Asn Leu Pro Ile Asn Ile Ile Gly Leu Ala Pro Leu Cys |     |     |     |     |     |     |
|   | 290 |     | 295 |     | 300 |     |
| Glu Asn Met Pro Ser Gly Lys Ala Asn Lys Pro Gly Asp Val Val Arg |     |     |     |     |     |     |
| 305   |     | 310 |     | 315 |     | 320 |
| Ala Lys Asn Gly Lys Thr Ile Gln Val Asp Asn Thr Asp Ala Glu Gly |     |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |     |
| Arg Leu Ile Leu Ala Asp Ala Leu Cys Tyr Ala His Thr Phe Asn Pro |     |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |     |
| Lys Val Ile Leu Asn Ala Ala Thr Leu Thr Gly Ala Met Asp Val Ala |     |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |     |
| Leu Gly Ser Gly Ala Thr Gly Val Phe Thr Asn Ser Ser Trp Leu Trp |     |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |     |
| Asn Lys Leu Phe Glu Ala Ser Ile Glu Thr Gly Asp Arg Val Trp Arg |     |     |     |     |     |     |
| 385   |     | 390 |     | 395 |     | 400 |
| Met Pro Leu Phe Glu His Tyr Thr Arg Gln Val Val Asp Cys Gln Leu |     |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |     |
| Ala Asp Val Asn Asn Ile Gly Lys Tyr Arg Ser Ala Gly Ala Cys Thr |     |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |     |
| Ala Ala Ala Phe Leu Lys Glu Phe Val Thr His Pro Lys Trp Ala His |     |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |     |
| Leu Asp Ile Ala Gly Val Met Thr Asn Lys Asp Glu Val Pro Tyr Leu |     |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |     |
| Arg Lys Gly Met Thr Gly Arg Pro Thr Arg Thr Leu Ile Glu Phe Leu |     |     |     |     |     |     |
| 465   |     | 470 |     | 475 |     | 480 |
| Leu Arg Phe Ser Gln Asp Asn Ala                                 |     |     |     |     |     |     |
|   | 485 |     |     |     |     |     |

<210> 33  
 <211> 400  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Keratin, type I cytoskeletal 19

<222> (1)..(400)

<223> Accession NO: as of 09 Dec 2002 : P08727

<400> 33

Met Thr Ser Tyr Ser Tyr Arg Gln Ser Ser Ala Thr Ser Ser Phe Gly  
1 5 10 15  
Gly Leu Gly Gly Gly Ser Val Arg Phe Gly Pro Gly Val Ala Phe Arg  
20 25 30  
Ala Pro Ser Ile His Gly Gly Ser Gly Gly Arg Gly Val Ser Val Ser  
35 40 45  
Ser Ala Arg Phe Val Ser Ser Ser Ser Ser Gly Gly Tyr Gly Gly Gly  
50 55 60  
Tyr Gly Gly Val Leu Thr Ala Ser Asp Gly Leu Leu Ala Gly Asn Glu  
65 70 75 80  
Lys Leu Thr Met Gln Asn Leu Asn Asp Arg Leu Ala Ser Tyr Leu Asp  
85 90 95  
Lys Val Arg Ala Leu Glu Ala Ala Asn Gly Glu Leu Glu Val Lys Ile  
100 105 110  
Arg Asp Trp Tyr Gln Lys Gln Gly Pro Gly Pro Ser Arg Asp Tyr Ser  
115 120 125  
His Tyr Tyr Thr Thr Ile Gln Asp Leu Arg Asp Lys Ile Leu Gly Ala  
130 135 140  
Thr Ile Glu Asn Ser Arg Ile Val Leu Gln Ile Asp Asn Ala Arg Leu  
145 150 155 160  
Ala Ala Asp Asp Phe Arg Thr Lys Phe Glu Thr Glu Gln Ala Leu Arg  
165 170 175  
Met Ser Val Glu Ala Asp Ile Asn Gly Leu Arg Arg Val Leu Asp Glu  
180 185 190  
Leu Thr Leu Ala Arg Thr Asp Leu Glu Met Gln Ile Glu Gly Leu Lys  
195 200 205  
Glu Glu Leu Ala Tyr Leu Lys Lys Asn His Glu Glu Glu Ile Ser Thr  
210 215 220  
Leu Arg Gly Gln Val Gly Gly Gln Val Ser Val Glu Val Asp Ser Ala  
225 230 235 240  
Pro Gly Thr Asp Leu Ala Lys Ile Leu Ser Asp Met Arg Ser Gln Tyr  
245 250 255  
Glu Val Met Ala Glu Gln Asn Arg Lys Asp Ala Glu Ala Trp Phe Thr  
260 265 270  
Ser Arg Thr Glu Glu Leu Asn Arg Glu Val Ala Gly His Thr Glu Gln  
275 280 285

Leu Gln Met Ser Arg Ser Glu Val Thr Asp Leu Arg Arg Thr Leu Gln  
 290 295 300  
 Gly Leu Glu Ile Glu Leu Gln Ser Gln Leu Ser Met Lys Ala Ala Leu  
 305 310 315 320  
 Glu Asp Thr Leu Ala Glu Thr Glu Ala Arg Phe Gly Ala Gln Leu Ala  
 325 330 335  
 His Ile Gln Ala Leu Ile Ser Gly Ile Glu Ala Gln Leu Ala Asp Val  
 340 345 350  
 Arg Ala Asp Ser Glu Arg Gln Asn Gln Glu Tyr Gln Arg Leu Met Asp  
 355 360 365  
 Ile Lys Ser Arg Leu Glu Gln Glu Ile Ala Thr Tyr Arg Ser Leu Leu  
 370 375 380  
 Glu Gly Gln Glu Asp His Tyr Asn Asn Leu Ser Ala Ser Lys Val Leu  
 385 390 395 400

<210> 34  
 <211> 325  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Alcohol dehydrogenase [NADP+]  
 <222> (1)..(325)  
 <223> Accession NO: as of 09 Dec 2002: P14550  
 <400> 34

Met Ala Ala Ser Cys Val Leu Leu His Thr Gly Gln Lys Met Pro Leu  
 1 5 10 15  
 Ile Gly Leu Gly Thr Trp Lys Ser Glu Pro Gly Gln Val Lys Ala Ala  
 20 25 30  
 Val Lys Tyr Ala Leu Ser Val Gly Tyr Arg His Ile Asp Cys Ala Ala  
 35 40 45  
 Ile Tyr Gly Asn Glu Pro Glu Ile Gly Glu Ala Leu Lys Glu Asp Val  
 50 55 60  
 Gly Pro Gly Lys Ala Val Pro Arg Glu Glu Leu Phe Val Thr Ser Lys  
 65 70 75 80  
 Leu Trp Asn Thr Lys His His Pro Glu Asp Val Glu Pro Ala Leu Arg  
 85 90 95  
 Lys Thr Leu Ala Asp Leu Gln Leu Glu Tyr Leu Asp Leu Tyr Leu Met  
 100 105 110  
 His Trp Pro Tyr Ala Phe Glu Arg Gly Asp Asn Pro Phe Pro Lys Asn

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Ala Asp Gly Thr Ile Cys Tyr Asp Ser Thr His Tyr Lys Glu Thr Trp |     |     |
| 130   | 135 | 140 |
| Lys Ala Leu Glu Ala Leu Val Ala Lys Gly Leu Val Gln Ala Leu Gly |     |     |
| 145   | 150 | 155 |
| 160   |     |     |
| Leu Ser Asn Phe Asn Ser Arg Gln Ile Asp Asp Ile Leu Ser Val Ala |     |     |
| 165   | 170 | 175 |
| Ser Val Arg Pro Ala Val Leu Gln Val Glu Cys His Pro Tyr Leu Ala |     |     |
| 180   | 185 | 190 |
| Gln Asn Glu Leu Ile Ala His Cys Gln Ala Arg Gly Leu Glu Val Thr |     |     |
| 195   | 200 | 205 |
| Ala Tyr Ser Pro Leu Gly Ser Ser Asp Arg Ala Trp Arg Asp Pro Asp |     |     |
| 210   | 215 | 220 |
| Glu Pro Val Leu Leu Glu Glu Pro Val Val Leu Ala Leu Ala Glu Lys |     |     |
| 225   | 230 | 235 |
| 240   |     |     |
| Tyr Gly Arg Ser Pro Ala Gln Ile Leu Leu Arg Trp Gln Val Gln Arg |     |     |
| 245   | 250 | 255 |
| Lys Val Ile Cys Ile Pro Lys Ser Ile Thr Pro Ser Arg Ile Leu Gln |     |     |
| 260   | 265 | 270 |
| Asn Ile Lys Val Phe Asp Phe Thr Phe Ser Pro Glu Glu Met Lys Gln |     |     |
| 275   | 280 | 285 |
| Leu Asn Ala Leu Asn Lys Asn Trp Arg Tyr Ile Val Pro Met Leu Thr |     |     |
| 290   | 295 | 300 |
| Val Asp Gly Lys Arg Val Pro Arg Asp Ala Gly His Pro Leu Tyr Pro |     |     |
| 305   | 310 | 315 |
| 320   |     |     |
| Phe Asn Asp Pro Tyr   |     |     |
| 325   |     |     |

<210> 35  
 <211> 270  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Elastase IIIA precursor  
 <222> (1)..(270)  
 <223> Accession NO: as of 09 Dec 2002: P09093  
 <400> 35

|   |
|---|
| Met Met Leu Arg Leu Leu Ser Ser Leu Leu Val Ala Val Ala Ser |
| 1 5 10 15   |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Tyr | Gly | Pro | Pro | Ser | Ser | His | Ser | Ser | Ser | Arg | Val | Val | His | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Asp | Ala | Val | Pro | Tyr | Ser | Trp | Pro | Trp | Gln | Val | Ser | Leu | Gln | Tyr |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Glu | Lys | Ser | Gly | Ser | Phe | Tyr | His | Thr | Cys | Gly | Gly | Ser | Leu | Ile | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Pro | Asp | Trp | Val | Val | Thr | Ala | Gly | His | Cys | Ile | Ser | Arg | Asp | Leu | Thr |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Tyr | Gln | Val | Val | Leu | Gly | Glu | Tyr | Asn | Leu | Ala | Val | Lys | Glu | Gly | Pro |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Glu | Gln | Val | Ile | Pro | Ile | Asn | Ser | Glu | Glu | Leu | Phe | Val | His | Pro | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Trp | Asn | Arg | Ser | Cys | Val | Ala | Cys | Gly | Asn | Asp | Ile | Ala | Leu | Ile | Lys |
|     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Leu | Ser | Arg | Ser | Ala | Gln | Leu | Gly | Asp | Ala | Val | Gln | Leu | Ala | Ser | Leu |
|     | 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |     |
| Pro | Pro | Ala | Gly | Asp | Ile | Leu | Pro | Asn | Lys | Thr | Pro | Cys | Tyr | Ile | Thr |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Gly | Trp | Gly | Arg | Leu | Tyr | Thr | Asn | Gly | Pro | Leu | Pro | Asp | Lys | Leu | Gln |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gln | Ala | Arg | Leu | Pro | Val | Val | Asp | Tyr | Lys | His | Cys | Ser | Arg | Trp | Asn |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Trp | Trp | Gly | Ser | Thr | Val | Lys | Lys | Thr | Met | Val | Cys | Ala | Gly | Gly | Tyr |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Ile | Arg | Ser | Gly | Cys | Asn | Gly | Asp | Ser | Gly | Gly | Pro | Leu | Asn | Cys | Pro |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Thr | Glu | Asp | Gly | Gly | Trp | Gln | Val | His | Gly | Val | Thr | Ser | Phe | Val | Ser |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |
| Gly | Phe | Gly | Cys | Asn | Phe | Ile | Trp | Lys | Pro | Thr | Val | Phe | Thr | Arg | Val |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Ser | Ala | Phe | Ile | Asp | Trp | Ile | Glu | Glu | Thr | Ile | Ala | Ser | His |     |     |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |

<210> 36

<211> 509

<212> PRT

<213> Homo sapiens

<220>

<221> Dihydrolipoamide dehydrogenase, mitochondrial precursor

<222> (1)..(509)

<223> Accession NO: as of 09 Dec 2002: P09622

<400> 36

Met Gln Ser Trp Ser Arg Val Tyr Cys Ser Leu Ala Lys Arg Gly His  
1 5 10 15  
Phe Asn Arg Ile Ser His Gly Leu Gln Gly Leu Ser Ala Val Pro Leu  
20 25 30  
Arg Thr Tyr Ala Asp Gln Pro Ile Asp Ala Asp Val Thr Val Ile Gly  
35 40 45  
Ser Gly Pro Gly Gly Tyr Val Ala Ala Ile Lys Ala Ala Gln Leu Gly  
50 55 60  
Phe Lys Thr Val Cys Ile Glu Lys Asn Glu Thr Leu Gly Gly Thr Cys  
65 70 75 80  
Leu Asn Val Gly Cys Ile Pro Ser Lys Ala Leu Leu Asn Asn Ser His  
85 90 95  
Tyr Tyr His Met Ala His Gly Thr Asp Phe Ala Ser Arg Gly Ile Glu  
100 105 110  
Met Ser Glu Val Arg Leu Asn Leu Asp Lys Met Met Glu Gln Lys Ser  
115 120 125  
Thr Ala Val Lys Ala Leu Thr Gly Gly Ile Ala His Leu Phe Lys Gln  
130 135 140  
Asn Lys Val Val His Val Asn Gly Tyr Gly Lys Ile Thr Gly Lys Asn  
145 150 155 160  
Gln Val Thr Ala Thr Lys Ala Asp Gly Gly Thr Gln Val Ile Asp Thr  
165 170 175  
Lys Asn Ile Leu Ile Ala Thr Gly Ser Glu Val Thr Pro Phe Pro Gly  
180 185 190  
Ile Thr Ile Asp Glu Asp Thr Ile Val Ser Ser Thr Gly Ala Leu Ser  
195 200 205  
Leu Lys Lys Val Pro Glu Lys Met Val Val Ile Gly Ala Gly Val Ile  
210 215 220  
Gly Val Glu Leu Gly Ser Val Trp Gln Arg Leu Gly Ala Asp Val Thr  
225 230 235 240  
Ala Val Glu Phe Leu Gly His Val Gly Gly Val Gly Ile Asp Met Glu  
245 250 255  
Ile Ser Lys Asn Phe Gln Arg Ile Leu Gln Lys Gln Gly Phe Lys Phe  
260 265 270  
Lys Leu Asn Thr Lys Val Thr Gly Ala Thr Lys Lys Ser Asp Gly Lys  
275 280 285  
Ile Asp Val Ser Ile Glu Ala Ala Ser Gly Gly Lys Ala Glu Val Ile  
290 295 300

Thr Cys Asp Val Leu Leu Val Cys Ile Gly Arg Arg Pro Phe Thr Lys  
 305 310 315 320  
 Asn Leu Gly Leu Glu Glu Leu Gly Ile Glu Leu Asp Pro Arg Gly Arg  
 325 330 335  
 Ile Pro Val Asn Thr Arg Phe Gln Thr Lys Ile Pro Asn Ile Tyr Ala  
 340 345 350  
 Ile Gly Asp Val Val Ala Gly Pro Met Leu Ala His Lys Ala Glu Asp  
 355 360 365  
 Glu Gly Ile Ile Cys Val Glu Gly Met Ala Gly Gly Ala Val His Ile  
 370 375 380  
 Asp Tyr Asn Cys Val Pro Ser Val Ile Tyr Thr His Pro Glu Val Ala  
 385 390 395 400  
 Trp Val Gly Lys Ser Glu Glu Gln Leu Lys Glu Glu Gly Ile Glu Tyr  
 405 410 415  
 Lys Val Gly Lys Phe Pro Phe Ala Ala Asn Ser Arg Ala Lys Thr Asn  
 420 425 430  
 Ala Asp Thr Asp Gly Met Val Lys Ile Leu Gly Gln Lys Ser Thr Asp  
 435 440 445  
 Arg Val Leu Gly Ala His Ile Leu Gly Pro Gly Ala Gly Glu Met Val  
 450 455 460  
 Asn Glu Ala Ala Leu Ala Leu Glu Tyr Gly Ala Ser Cys Glu Asp Ile  
 465 470 475 480  
 Ala Arg Val Cys His Ala His Pro Thr Leu Ser Glu Ala Phe Arg Glu  
 485 490 495  
 Ala Asn Leu Ala Ala Ser Phe Gly Lys Ser Ile Asn Phe  
 325 505

<210> 37  
 <211> 290  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Enoyl-CoA hydratase, mitochondrial precursor  
 <222> (1)..(290)  
 <223> Accession NO: as of 09 Dec 2002: P30084  
 <400> 37

Met Ala Ala Leu Arg Val Leu Leu Ser Cys Ala Arg Gly Pro Leu Arg  
 1 5 10 15  
 Pro Pro Val Arg Cys Pro Ala Trp Arg Pro Phe Ala Ser Gly Ala Asn

|     |   |     |     |     |     |
|-----|---|-----|-----|-----|-----|
|     | 20  |     | 25  |     | 30  |
| Phe | Glu Tyr Ile Ile Ala Glu Lys Arg Gly Lys Asn Asn Thr Val Gly |     |     |     |     |
|     | 35  |     | 40  |     | 45  |
| Leu | Ile Gln Leu Asn Arg Pro Lys Ala Leu Asn Ala Leu Cys Asp Gly |     |     |     |     |
|     | 50  |     | 55  |     | 60  |
| Leu | Ile Asp Glu Leu Asn Gln Ala Leu Lys Ile Phe Glu Glu Asp Pro |     |     |     |     |
| 65  |   | 70  |     | 75  | 80  |
| Ala | Val Gly Ala Ile Val Leu Thr Gly Gly Asp Lys Ala Phe Ala Ala |     |     |     |     |
|     | 85  |     | 90  |     | 95  |
| Gly | Ala Asp Ile Lys Glu Met Gln Asn Leu Ser Phe Gln Asp Cys Tyr |     |     |     |     |
|     | 100   |     | 105 |     | 110 |
| Ser | Ser Lys Phe Leu Lys His Trp Asp His Leu Thr Gln Val Lys Lys |     |     |     |     |
|     | 115   |     | 120 |     | 125 |
| Pro | Val Ile Ala Ala Val Asn Gly Tyr Ala Phe Gly Gly Gly Cys Glu |     |     |     |     |
|     | 130   |     | 135 |     | 140 |
| Leu | Ala Met Met Cys Asp Ile Ile Tyr Ala Gly Glu Lys Ala Gln Phe |     |     |     |     |
| 145 |   | 150 |     | 155 | 160 |
| Ala | Gln Pro Glu Ile Leu Ile Gly Thr Ile Pro Gly Ala Gly Gly Thr |     |     |     |     |
|     | 165   |     | 170 |     | 175 |
| Gln | Arg Leu Thr Arg Ala Val Gly Lys Ser Leu Ala Met Glu Met Val |     |     |     |     |
|     | 180   |     | 185 |     | 190 |
| Leu | Thr Gly Asp Arg Ile Ser Ala Gln Asp Ala Lys Gln Ala Gly Leu |     |     |     |     |
|     | 195   |     | 200 |     | 205 |
| Val | Ser Lys Ile Cys Pro Val Glu Thr Leu Val Glu Glu Ala Ile Gln |     |     |     |     |
|     | 210   |     | 215 |     | 220 |
| Cys | Ala Glu Lys Ile Ala Ser Asn Ser Lys Ile Val Val Ala Met Ala |     |     |     |     |
| 225 |   | 230 |     | 235 | 240 |
| Lys | Glu Ser Val Asn Ala Ala Phe Glu Met Thr Leu Thr Glu Gly Ser |     |     |     |     |
|     | 245   |     | 250 |     | 255 |
| Lys | Leu Glu Lys Lys Leu Phe Tyr Ser Thr Phe Ala Thr Asp Asp Arg |     |     |     |     |
|     | 260   |     | 265 |     | 270 |
| Lys | Glu Gly Met Thr Ala Phe Val Glu Lys Arg Lys Ala Asn Phe Lys |     |     |     |     |
|     | 275   |     | 280 |     | 285 |
| Asp | Gln   |     |     |     |     |
|     | 290   |     |     |     |     |

<210> 38  
 <211> 160  
 <212> PRT  
 <213> Homo sapiens



<220>  
 <221> Heat-shock 20 kDa like-protein p20  
 <222> (1)..(160)  
 <223> Accession NO: as of 09 Dec 2002: O14558  
 <400> 38

```

Met Glu Ile Pro Val Pro Val Gln Pro Ser Trp Leu Arg Arg Ala Ser
1           5           10           15
Ala Pro Leu Pro Gly Leu Ser Ala Pro Gly Arg Leu Phe Asp Gln Arg
          20           25           30
Phe Gly Glu Gly Leu Leu Glu Ala Glu Leu Ala Ala Leu Cys Pro Thr
        35           40           45
Thr Leu Ala Pro Tyr Tyr Leu Arg Ala Pro Ser Val Ala Leu Pro Val
        50           55           60
Ala Gln Val Pro Thr Asp Pro Gly His Phe Ser Val Leu Leu Asp Val
65           70           75           80
Lys His Phe Ser Pro Glu Glu Ile Ala Val Lys Val Val Gly Glu His
          85           90           95
Val Glu Val His Ala Arg His Glu Glu Arg Pro Asp Glu His Gly Phe
        100          105          110
Val Ala Arg Glu Phe His Arg Arg Tyr Arg Leu Pro Pro Gly Val Asp
        115          120          125
Pro Ala Ala Val Thr Ser Ala Leu Ser Pro Glu Gly Val Leu Ser Ile
        130          135          140
Gln Ala Ala Pro Ala Ser Ala Gln Ala Pro Pro Pro Ala Ala Ala Lys
145          150          155          160
  
```

<210> 39  
 <211> 151  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Myosin light chain alkali, non-muscle isoform  
 <222> (1)..(151)  
 <223> Accession NO: as of 09 Dec 2002: P16475  
 <400> 39

```

Met Cys Asp Phe Thr Glu Asp Gln Thr Ala Glu Phe Lys Glu Ala Phe
1           5           10           15
Gln Leu Phe Asp Arg Thr Gly Asp Gly Lys Ile Leu Tyr Ser Gln Cys
  
```

|   |     |    |     |    |     |
|---|-----|----|-----|----|-----|
|   | 20  |    | 25  |    | 30  |
| Gly Asp Val Met Arg Ala Leu Gly Gln Asn Pro Thr Asn Ala Glu Val |     |    |     |    |     |
| 35  |     | 40 |     | 45 |     |
| Leu Lys Val Leu Gly Asn Pro Lys Ser Asp Glu Met Asn Val Lys Val |     |    |     |    |     |
| 50  |     | 55 |     | 60 |     |
| Leu Asp Phe Glu His Phe Leu Pro Met Leu Gln Thr Val Ala Lys Asn |     |    |     |    |     |
| 65  |     | 70 |     | 75 | 80  |
| Lys Asp Gln Gly Thr Tyr Glu Asp Tyr Val Glu Gly Leu Arg Val Phe |     |    |     |    |     |
|   | 85  |    | 90  |    | 95  |
| Asp Lys Glu Gly Asn Gly Thr Val Met Gly Ala Glu Ile Arg His Val |     |    |     |    |     |
|   | 100 |    | 105 |    | 110 |
| Leu Val Thr Leu Gly Glu Lys Met Thr Glu Glu Glu Val Glu Met Leu |     |    |     |    |     |
|   | 115 |    | 120 |    | 125 |
| Val Ala Gly His Glu Asp Ser Asn Gly Cys Ile Asn Tyr Glu Ala Phe |     |    |     |    |     |
|   | 130 |    | 135 |    | 140 |
| Val Arg His Ile Leu Ser Gly                                     |     |    |     |    |     |
| 325   | 150 |    |     |    |     |

<210> 40  
 <211> 592  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Calnexin precursor  
 <222> (1)..(592)  
 <223> Accession NO: as of 09 Dec 2002: P27824  
 <400> 40

|   |    |    |    |
|---|----|----|----|
| Met Glu Gly Lys Trp Leu Leu Cys Met Leu Leu Val Leu Gly Thr Ala |    |    |    |
| 1   | 5  | 10 | 15 |
| Ile Val Glu Ala His Asp Gly His Asp Asp Asp Val Ile Asp Ile Glu |    |    |    |
|   | 20 | 25 | 30 |
| Asp Asp Leu Asp Asp Val Ile Glu Glu Val Glu Asp Ser Lys Pro Asp |    |    |    |
|   | 35 | 40 | 45 |
| Thr Thr Ala Pro Pro Ser Ser Pro Lys Val Thr Tyr Lys Ala Pro Val |    |    |    |
|   | 50 | 55 | 60 |
| Pro Thr Gly Glu Val Tyr Phe Ala Asp Ser Phe Asp Arg Gly Thr Leu |    |    |    |
| 65  | 70 | 75 | 80 |
| Ser Gly Trp Ile Leu Ser Lys Ala Lys Lys Asp Asp Thr Asp Asp Glu |    |    |    |
|   | 85 | 90 | 95 |



|   |     |     |
|---|-----|-----|
| 420   | 425 | 430 |
| Ile Phe Phe Asp Asn Phe Ile Ile Cys Ala Asp Arg Arg Ile Val Asp |     |     |
| 435   | 440 | 445 |
| Asp Trp Ala Asn Asp Gly Trp Gly Leu Lys Lys Ala Ala Asp Gly Ala |     |     |
| 450   | 455 | 460 |
| Ala Glu Pro Gly Val Val Gly Gln Met Ile Glu Ala Ala Glu Glu Arg |     |     |
| 465   | 470 | 475 |
| Pro Trp Leu Trp Val Val Tyr Ile Leu Thr Val Ala Leu Pro Val Phe |     |     |
| 485   | 490 | 495 |
| Leu Val Ile Leu Phe Cys Cys Ser Gly Lys Lys Gln Thr Ser Gly Met |     |     |
| 500   | 505 | 510 |
| Glu Tyr Lys Lys Thr Asp Ala Pro Gln Pro Asp Val Lys Glu Glu Glu |     |     |
| 515   | 520 | 525 |
| Glu Glu Lys Glu Glu Glu Lys Asp Lys Gly Asp Glu Glu Glu Glu Gly |     |     |
| 530   | 535 | 540 |
| Glu Glu Lys Leu Glu Glu Lys Gln Lys Ser Asp Ala Glu Glu Asp Gly |     |     |
| 545   | 550 | 555 |
| Gly Thr Val Ser Gln Glu Glu Glu Asp Arg Lys Pro Lys Ala Glu Glu |     |     |
| 565   | 570 | 575 |
| Asp Glu Ile Leu Asn Arg Ser Pro Arg Asn Arg Lys Pro Arg Arg Glu |     |     |
| 580   | 585 | 590 |

<210> 41  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Complement component 1  
 <222> (1)..(282)  
 <223> Accession NO: as of 09 Dec 2002: Q07021  
 <400> 41

|   |
|---|
| Met Leu Pro Leu Leu Arg Cys Val Pro Arg Val Leu Gly Ser Ser Val |
| 1 5 10 15   |
| Ala Gly Leu Arg Ala Ala Ala Pro Ala Ser Pro Phe Arg Gln Leu Leu |
| 20 25 30  |
| Gln Pro Ala Pro Arg Leu Cys Thr Arg Pro Phe Gly Leu Leu Ser Val |
| 35 40 45  |
| Arg Ala Gly Ser Glu Arg Arg Pro Gly Leu Leu Arg Pro Arg Gly Pro |
| 50 55 60  |

Cys Ala Cys Gly Cys Gly Cys Gly Ser Leu His Thr Asp Gly Asp Lys  
 65 70 75 80  
 Ala Phe Val Asp Phe Leu Ser Asp Glu Ile Lys Glu Glu Arg Lys Ile  
 85 90 95  
 Gln Lys His Lys Thr Leu Pro Lys Met Ser Gly Gly Trp Glu Leu Glu  
 100 105 110  
 Leu Asn Gly Thr Glu Ala Lys Leu Val Arg Lys Val Ala Gly Glu Lys  
 115 120 125  
 Ile Thr Val Thr Phe Asn Ile Asn Asn Ser Ile Pro Pro Thr Phe Asp  
 130 135 140  
 Gly Glu Glu Glu Pro Ser Gln Gly Gln Lys Val Glu Glu Gln Glu Pro  
 145 150 155 160  
 Glu Leu Thr Ser Thr Pro Asn Phe Val Val Glu Val Ile Lys Asn Asp  
 165 170 175  
 Asp Gly Lys Lys Ala Leu Val Leu Asp Cys His Tyr Pro Glu Asp Glu  
 180 185 190  
 Val Gly Gln Glu Asp Glu Ala Glu Ser Asp Ile Phe Ser Ile Arg Glu  
 195 200 205  
 Val Ser Phe Gln Ser Thr Gly Glu Ser Glu Trp Lys Asp Thr Asn Tyr  
 210 215 220  
 Thr Leu Asn Thr Asp Ser Leu Asp Trp Ala Leu Tyr Asp His Leu Met  
 225 230 235 240  
 Asp Phe Leu Ala Asp Arg Gly Val Asp Asn Thr Phe Ala Asp Glu Leu  
 245 250 255  
 Val Glu Leu Ser Thr Ala Leu Glu His Gln Glu Tyr Ile Thr Phe Leu  
 260 265 270  
 Glu Asp Leu Lys Ser Phe Val Lys Ser Gln  
 325 280

<210> 42  
 <211> 727  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial  
 precursor  
 <222> (1)..(727)  
 <223> Accession NO: as of 09 Dec 2002: P28331  
 <400> 42

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Arg | Ile | Pro | Val | Arg | Arg | Ala | Leu | Val | Gly | Leu | Ser | Lys | Ser | 1   | 5   | 10  | 15  |
| Pro | Lys | Gly | Cys | Val | Arg | Thr | Thr | Ala | Thr | Ala | Ala | Ser | Asn | Leu | Ile | 20  | 25  | 30  |     |
| Glu | Val | Phe | Val | Asp | Gly | Gln | Ser | Val | Met | Val | Glu | Pro | Gly | Thr | Thr | 35  | 40  | 45  |     |
| Val | Leu | Gln | Ala | Cys | Glu | Lys | Val | Gly | Met | Gln | Ile | Pro | Arg | Phe | Cys | 50  | 55  | 60  |     |
| Tyr | His | Glu | Arg | Leu | Ser | Val | Ala | Gly | Asn | Cys | Arg | Met | Cys | Leu | Val | 65  | 70  | 75  | 80  |
| Glu | Ile | Glu | Lys | Ala | Pro | Lys | Val | Val | Ala | Ala | Cys | Ala | Met | Pro | Val | 85  | 90  | 95  |     |
| Met | Lys | Gly | Trp | Asn | Ile | Leu | Thr | Asn | Ser | Glu | Lys | Ser | Lys | Lys | Ala | 100 | 105 | 110 |     |
| Arg | Glu | Gly | Val | Met | Glu | Phe | Leu | Leu | Ala | Asn | His | Pro | Leu | Asp | Cys | 115 | 120 | 125 |     |
| Pro | Ile | Cys | Asp | Gln | Gly | Gly | Glu | Cys | Asp | Leu | Gln | Asp | Gln | Ser | Met | 130 | 135 | 140 |     |
| Met | Phe | Gly | Asn | Asp | Arg | Ser | Arg | Phe | Leu | Glu | Gly | Lys | Arg | Ala | Val | 145 | 150 | 155 | 160 |
| Glu | Asp | Lys | Asn | Ile | Gly | Pro | Leu | Val | Lys | Thr | Ile | Met | Thr | Arg | Cys | 165 | 170 | 175 |     |
| Ile | Gln | Cys | Thr | Arg | Cys | Ile | Arg | Phe | Ala | Ser | Glu | Ile | Ala | Gly | Val | 180 | 185 | 190 |     |
| Asp | Asp | Leu | Gly | Thr | Thr | Gly | Arg | Gly | Asn | Asp | Met | Gln | Val | Gly | Thr | 195 | 200 | 205 |     |
| Tyr | Ile | Glu | Lys | Met | Phe | Met | Ser | Glu | Leu | Ser | Gly | Asn | Ile | Ile | Asp | 210 | 215 | 220 |     |
| Ile | Cys | Pro | Val | Gly | Ala | Leu | Thr | Ser | Lys | Pro | Tyr | Ala | Phe | Thr | Ala | 225 | 230 | 235 | 240 |
| Arg | Pro | Trp | Glu | Thr | Arg | Lys | Thr | Glu | Ser | Ile | Asp | Val | Met | Asp | Ala | 245 | 250 | 255 |     |
| Val | Gly | Ser | Asn | Ile | Val | Val | Ser | Thr | Arg | Thr | Gly | Glu | Val | Met | Arg | 260 | 265 | 270 |     |
| Ile | Leu | Pro | Arg | Met | His | Glu | Asp | Ile | Asn | Glu | Glu | Trp | Ile | Ser | Asp | 275 | 280 | 285 |     |
| Lys | Thr | Arg | Phe | Ala | Tyr | Asp | Gly | Leu | Lys | Arg | Gln | Arg | Leu | Thr | Glu | 290 | 295 | 300 |     |
| Pro | Met | Val | Arg | Asn | Glu | Lys | Gly | Leu | Leu | Thr | Tyr | Thr | Ser | Trp | Glu | 305 | 310 | 315 | 320 |
| Asp | Ala | Leu | Ser | Arg | Val | Ala | Gly | Met | Leu | Gln | Ser | Phe | Gln | Gly | Lys |     |     |     |     |



Asp Asp Ile Glu Gly Ala Asn Tyr Phe Gln Gln Ala Asn Glu Leu Ser  
                   660                                  665                                  670  
 Lys Leu Val Asn Gln Gln Leu Leu Ala Asp Pro Leu Val Pro Pro Gln  
                   675                                  680                                  685  
 Leu Thr Leu Lys Asp Phe Tyr Met Thr Asp Ser Ile Ser Arg Ala Ser  
                   690                                  695                                  700  
 Gln Thr Met Ala Lys Cys Val Lys Ala Val Thr Glu Gly Ala Gln Ala  
 705                                  710                                  715                                  720  
 Val Glu Glu Pro Ser Ile Cys  
                                   725

<210> 43  
 <211> 491  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Pre-B cell enhancing factor precursor  
 <222> (1)..(491)  
 <223> Accession NO: as of 09 Dec 2002: P43490  
 <400> 43

Met Asn Pro Ala Ala Glu Ala Glu Phe Asn Ile Leu Leu Ala Thr Asp  
 1                                  5                                  10                                  15  
 Ser Tyr Lys Val Thr His Tyr Lys Gln Tyr Pro Pro Asn Thr Ser Lys  
                   20                                  25                                  30  
 Val Tyr Ser Tyr Phe Glu Cys Arg Glu Lys Lys Thr Glu Asn Ser Lys  
                   35                                  40                                  45  
 Leu Arg Lys Val Lys Tyr Glu Glu Thr Val Phe Tyr Gly Leu Gln Tyr  
                   50                                  55                                  60  
 Ile Leu Asn Lys Tyr Leu Lys Gly Lys Val Val Thr Lys Glu Lys Ile  
 65                                  70                                  75                                  80  
 Gln Glu Ala Lys Asp Val Tyr Lys Glu His Phe Gln Asp Asp Val Phe  
                                   85                                  90                                  95  
 Asn Glu Lys Gly Trp Asn Tyr Ile Leu Glu Lys Tyr Asp Gly His Leu  
                   100                                  105                                  110  
 Pro Ile Glu Ile Lys Ala Val Pro Glu Gly Phe Val Ile Pro Arg Gly  
                   115                                  120                                  125  
 Asn Val Leu Phe Thr Val Glu Asn Thr Asp Pro Glu Cys Tyr Trp Leu  
                   130                                  135                                  140  
 Thr Asn Trp Ile Glu Thr Ile Leu Val Gln Ser Trp Tyr Pro Ile Thr





Gln Leu Asn Ile Glu Leu Glu Ala Ala His His  
 325 490

<210> 44  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Retinol-binding protein I, cellular  
 <222> (1)..(135)  
 <223> Accession NO: as of 09 Dec 2002: P09455  
 <400> 44

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Val | Asp | Phe | Thr | Gly | Tyr | Trp | Lys | Met | Leu | Val | Asn | Glu | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Glu | Glu | Tyr | Leu | Arg | Ala | Leu | Asp | Val | Asn | Val | Ala | Leu | Arg | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Ala | Asn | Leu | Leu | Lys | Pro | Asp | Lys | Glu | Ile | Val | Gln | Asp | Gly | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Met | Ile | Ile | Arg | Thr | Leu | Ser | Thr | Phe | Arg | Asn | Tyr | Ile | Met | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Gln | Val | Gly | Lys | Glu | Phe | Glu | Glu | Asp | Leu | Thr | Gly | Ile | Asp | Asp |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Lys | Cys | Met | Thr | Thr | Val | Ser | Trp | Asp | Gly | Asp | Lys | Leu | Gln | Cys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Val | Gln | Lys | Gly | Glu | Lys | Glu | Gly | Arg | Gly | Trp | Thr | Gln | Trp | Ile | Glu |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Gly | Asp | Glu | Leu | His | Leu | Glu | Met | Arg | Val | Glu | Gly | Val | Val | Cys | Lys |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gln | Val | Phe | Lys | Lys | Val | Gln |     |     |     |     |     |     |     |     |     |
|     | 325 |     | 135 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 45  
 <211> 544  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> T-complex protein 1, gamma subunit  
 <222> (1)..(544)

<223> Accession NO: as of 09 Dec 2002: P49368

<400> 45

Met Gly His Arg Pro Val Leu Val Leu Ser Gln Asn Thr Lys Arg Glu  
1 5 10 15  
Ser Gly Arg Lys Val Gln Ser Gly Asn Ile Asn Ala Ala Lys Thr Ile  
20 25 30  
Ala Asp Ile Ile Arg Thr Cys Leu Gly Pro Lys Ser Met Met Lys Met  
35 40 45  
Leu Leu Asp Pro Met Gly Gly Ile Val Met Thr Asn Asp Gly Asn Ala  
50 55 60  
Ile Leu Arg Glu Ile Gln Val Gln His Pro Ala Ala Lys Ser Met Ile  
65 70 75 80  
Glu Ile Ser Arg Thr Gln Asp Glu Glu Val Gly Asp Gly Thr Thr Ser  
85 90 95  
Val Ile Ile Leu Ala Gly Glu Met Leu Ser Val Ala Glu His Phe Leu  
100 105 110  
Glu Gln Gln Met His Pro Thr Val Val Ile Ser Ala Tyr Arg Lys Ala  
115 120 125  
Leu Asp Asp Met Ile Ser Thr Leu Lys Lys Ile Ser Ile Pro Val Asp  
130 135 140  
Ile Ser Asp Ser Asp Met Met Leu Asn Ile Ile Asn Ser Ser Ile Thr  
145 150 155 160  
Thr Lys Ala Ile Ser Arg Trp Ser Ser Leu Ala Cys Asn Ile Ala Leu  
165 170 175  
Asp Ala Val Lys Met Val Gln Phe Glu Glu Asn Gly Arg Lys Glu Ile  
180 185 190  
Asp Ile Lys Lys Tyr Ala Arg Val Glu Lys Ile Pro Gly Gly Ile Ile  
195 200 205  
Glu Asp Ser Cys Val Leu Arg Gly Val Met Ile Asn Lys Asp Val Thr  
210 215 220  
His Pro Arg Met Arg Arg Tyr Ile Lys Asn Pro Arg Ile Val Leu Leu  
225 230 235 240  
Asp Ser Ser Leu Glu Tyr Lys Lys Gly Glu Ser Gln Thr Asp Ile Glu  
245 250 255  
Ile Thr Arg Glu Glu Asp Phe Thr Arg Ile Leu Gln Met Glu Glu Glu  
260 265 270  
Tyr Ile Gln Gln Leu Cys Glu Asp Ile Ile Gln Leu Lys Pro Asp Val  
275 280 285  
Val Ile Thr Glu Lys Gly Ile Ser Asp Leu Ala Gln His Tyr Leu Met  
290 295 300

```

Arg Ala Asn Ile Thr Ala Ile Arg Arg Val Arg Lys Thr Asp Asn Asn
305                      310                      315                      320
Arg Ile Ala Arg Ala Cys Gly Ala Arg Ile Val Ser Arg Pro Glu Glu
                      325                      330                      335
Leu Arg Glu Asp Asp Val Gly Thr Gly Ala Gly Leu Leu Glu Ile Lys
                      340                      345                      350
Lys Ile Gly Asp Glu Tyr Phe Thr Phe Ile Thr Asp Cys Lys Asp Pro
                      355                      360                      365
Lys Ala Cys Thr Ile Leu Leu Arg Gly Ala Ser Lys Glu Ile Leu Ser
                      370                      375                      380
Glu Val Glu Arg Asn Leu Gln Asp Ala Met Gln Val Cys Arg Asn Val
385                      390                      395                      400
Leu Leu Asp Pro Gln Leu Val Pro Gly Gly Gly Ala Ser Glu Met Ala
                      405                      410                      415
Val Ala His Ala Leu Thr Glu Lys Ser Lys Ala Met Thr Gly Val Glu
                      420                      425                      430
Gln Trp Pro Tyr Arg Ala Val Ala Gln Ala Leu Glu Val Ile Pro Arg
                      435                      440                      445
Thr Leu Ile Gln Asn Cys Gly Ala Ser Thr Ile Arg Leu Leu Thr Ser
450                      455                      460
Leu Arg Ala Lys His Thr Gln Glu Asn Cys Glu Thr Trp Gly Val Asn
465                      470                      475                      480
Gly Glu Thr Gly Thr Leu Val Asp Met Lys Glu Leu Gly Ile Trp Glu
                      485                      490                      495
Pro Leu Ala Val Lys Leu Gln Thr Tyr Lys Thr Ala Val Glu Thr Ala
                      500                      505                      510
Val Leu Leu Leu Arg Ile Asp Asp Ile Val Ser Gly His Lys Lys Lys
515                      520                      525
Gly Asp Asp Gln Ser Arg Gln Gly Gly Ala Pro Asp Ala Gly Gln Glu
530                      535                      540

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<210> 46
<211> 461
<212> PRT
<213> Homo sapiens
<220>
<221> Placental ribonuclease inhibitor
<222> (1)..(461)
<223> Accession NO: as of 09 Dec 2002: P13489
<400> 46

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Leu | Asp | Ile | Gln | Ser | Leu | Asp | Ile | Gln | Cys | Glu | Glu | Leu | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Ala | Arg | Trp | Ala | Glu | Leu | Leu | Pro | Leu | Leu | Gln | Gln | Cys | Gln | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Arg | Leu | Asp | Asp | Cys | Gly | Leu | Thr | Glu | Ala | Arg | Cys | Lys | Asp | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Ser | Ala | Leu | Arg | Val | Asn | Pro | Ala | Leu | Ala | Glu | Leu | Asn | Leu | Arg |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Asn | Glu | Leu | Gly | Asp | Val | Gly | Val | His | Cys | Val | Leu | Gln | Gly | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Thr | Pro | Ser | Cys | Lys | Ile | Gln | Lys | Leu | Ser | Leu | Gln | Asn | Cys | Cys |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Thr | Gly | Ala | Gly | Cys | Gly | Val | Leu | Ser | Ser | Thr | Leu | Arg | Thr | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Thr | Leu | Gln | Glu | Leu | His | Leu | Ser | Asp | Asn | Leu | Leu | Gly | Asp | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Leu | Gln | Leu | Leu | Cys | Glu | Gly | Leu | Leu | Asp | Pro | Gln | Cys | Arg | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Lys | Leu | Gln | Leu | Glu | Tyr | Cys | Ser | Leu | Ser | Ala | Ala | Ser | Cys | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Pro | Leu | Ala | Ser | Val | Leu | Arg | Ala | Lys | Pro | Asp | Phe | Lys | Glu | Leu | Thr |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Ser | Asn | Asn | Asp | Ile | Asn | Glu | Ala | Gly | Val | Arg | Val | Leu | Cys | Gln |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Leu | Lys | Asp | Ser | Pro | Cys | Gln | Leu | Glu | Ala | Leu | Lys | Leu | Glu | Ser |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Cys | Gly | Val | Thr | Ser | Asp | Asn | Cys | Arg | Asp | Leu | Cys | Gly | Ile | Val | Ala |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Lys | Ala | Ser | Leu | Arg | Glu | Leu | Ala | Leu | Gly | Ser | Asn | Lys | Leu | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asp | Val | Gly | Met | Ala | Glu | Leu | Cys | Pro | Gly | Leu | Leu | His | Pro | Ser | Ser |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Leu | Arg | Thr | Leu | Trp | Ile | Trp | Glu | Cys | Gly | Ile | Thr | Ala | Lys | Gly |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Cys | Gly | Asp | Leu | Cys | Arg | Val | Leu | Arg | Ala | Lys | Glu | Ser | Leu | Lys | Glu |
|     |     | 275 |     |     |     |     | 280 |     |     |     | 285 |     |     |     |     |
| Leu | Ser | Leu | Ala | Gly | Asn | Glu | Leu | Gly | Asp | Glu | Gly | Ala | Arg | Leu | Leu |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Cys | Glu | Thr | Leu | Leu | Glu | Pro | Gly | Cys | Gln | Leu | Glu | Ser | Leu | Trp | Val |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |

Lys Ser Cys Ser Phe Thr Ala Ala Cys Cys Ser His Phe Ser Ser Val  
                           325                          330                          335  
 Leu Ala Gln Asn Arg Phe Leu Leu Glu Leu Gln Ile Ser Asn Asn Arg  
                           340                          345                          350  
 Leu Glu Asp Ala Gly Val Arg Glu Leu Cys Gln Gly Leu Gly Gln Pro  
                           355                          360                          365  
 Gly Ser Val Leu Arg Val Leu Trp Leu Ala Asp Cys Asp Val Ser Asp  
                           370                          375                          380  
 Ser Ser Cys Ser Ser Leu Ala Ala Thr Leu Leu Ala Asn His Ser Leu  
 385                          390                          395                          400  
 Arg Glu Leu Asp Leu Ser Asn Asn Cys Leu Gly Asp Ala Gly Ile Leu  
                           405                          410                          415  
 Gln Leu Val Glu Ser Val Arg Gln Pro Gly Cys Leu Leu Glu Gln Leu  
                           420                          425                          430  
 Val Leu Tyr Asp Ile Tyr Trp Ser Glu Glu Met Glu Asp Arg Leu Gln  
                           435                          440                          445  
 Ala Leu Glu Lys Asp Lys Pro Ser Leu Arg Val Ile Ser  
                           450                          455                          460

<210> 47  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Guanine nucleotide-binding protein beta subunit-like protein 12.3  
 <222> (1)..(317)  
 <223> Accession NO: as of 09 Dec 2002: P25388  
 <400> 47

Met Thr Glu Gln Met Thr Leu Arg Gly Thr Leu Lys Gly His Asn Gly  
 1                          5                          10                          15  
 Trp Val Thr Gln Ile Ala Thr Thr Pro Gln Phe Pro Asp Met Ile Leu  
                           20                          25                          30  
 Ser Ala Ser Arg Asp Lys Thr Ile Ile Met Trp Lys Leu Thr Arg Asp  
                           35                          40                          45  
 Glu Thr Asn Tyr Gly Ile Pro Gln Arg Ala Leu Arg Gly His Ser His  
                           50                          55                          60  
 Phe Val Ser Asp Val Val Ile Ser Ser Asp Gly Gln Phe Ala Leu Ser  
 65                          70                          75                          80  
 Gly Ser Trp Asp Gly Thr Leu Arg Leu Trp Asp Leu Thr Thr Gly Thr



```

Met Ser Ser Lys Arg Ala Lys Ala Lys Thr Thr Lys Lys Arg Pro Gln
1          5          10          15
Arg Ala Thr Ser Asn Val Phe Ala Met Phe Asp Gln Ser Gln Ile Gln
          20          25          30
Glu Phe Lys Glu Ala Phe Asn Met Ile Asp Gln Asn Arg Asp Gly Phe
          35          40          45
Ile Asp Lys Glu Asp Leu His Asp Met Leu Ala Ser Leu Gly Lys Asn
          50          55          60
Pro Thr Asp Glu Tyr Leu Glu Gly Met Met Ser Glu Ala Pro Gly Pro
65          70          75          80
Ile Asn Phe Thr Met Phe Leu Thr Met Phe Gly Glu Lys Leu Asn Gly
          85          90          95
Thr Asp Pro Glu Asp Val Ile Arg Asn Ala Phe Ala Cys Phe Asp Glu
          100          105          110
Glu Ala Ser Gly Phe Ile His Glu Asp His Leu Arg Glu Leu Leu Thr
          115          120          125
Thr Met Gly Asp Arg Phe Thr Asp Glu Glu Val Asp Glu Met Tyr Arg
          130          135          140
Glu Ala Pro Ile Asp Lys Lys Gly Asn Phe Asn Tyr Val Glu Phe Thr
145          150          155          160
Arg Ile Leu Lys His Gly Ala Lys Asp Lys Asp Asp
          325          170

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<210> 49
<211> 114
<212> PRT
<213> Homo sapiens
<220>
<221> Calgranulin B
<222> (1)..(114)
<223> Accession NO: as of 10 Dec 2002: P06702
<400> 49

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Met Thr Cys Lys Met Ser Gln Leu Glu Arg Asn Ile Glu Thr Ile Ile
1          5          10          15
Asn Thr Phe His Gln Tyr Ser Val Lys Leu Gly His Pro Asp Thr Leu
          20          25          30
Asn Gln Gly Glu Phe Lys Glu Leu Val Arg Lys Asp Leu Gln Asn Phe
          35          40          45
Leu Lys Lys Glu Asn Lys Asn Glu Lys Val Ile Glu His Ile Met Glu

```



|   |     |    |     |     |
|---|-----|----|-----|-----|
| 50  |     | 55 |     | 60  |
| Asp Leu Asp Thr Asn Ala Asp Lys Gln Leu Ser Phe Glu Glu Phe Ile |     |    |     |     |
| 65  |     | 70 |     | 75  |
| Met Leu Met Ala Arg Leu Thr Trp Ala Ser His Glu Lys Met His Glu |     |    |     | 80  |
|   | 85  |    | 90  | 95  |
| Gly Asp Glu Gly Pro Gly His His His Lys Pro Gly Leu Gly Glu Gly |     |    |     |     |
|   | 100 |    | 105 | 110 |
| Thr Pro   |     |    |     |     |

<210> 50  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Macrophage capping protein  
 <222> (1)..(348)  
 <223> Accession NO: as of 10 Dec 2002: P40121  
 <400> 50

|   |     |     |     |
|---|-----|-----|-----|
| Met Tyr Thr Ala Ile Pro Gln Ser Gly Ser Pro Phe Pro Gly Ser Val |     |     |     |
| 1   | 5   | 10  | 15  |
| Gln Asp Pro Gly Leu His Val Trp Arg Val Glu Lys Leu Lys Pro Val |     |     |     |
|   | 20  | 25  | 30  |
| Pro Val Ala Gln Glu Asn Gln Gly Val Phe Phe Ser Gly Asp Ser Tyr |     |     |     |
|   | 35  | 40  | 45  |
| Leu Val Leu His Asn Gly Pro Glu Glu Val Ser His Leu His Leu Trp |     |     |     |
|   | 50  | 55  | 60  |
| Ile Gly Gln Gln Ser Ser Arg Asp Glu Gln Gly Ala Cys Ala Val Leu |     |     |     |
| 65  | 70  | 75  | 80  |
| Ala Val His Leu Asn Thr Leu Leu Gly Glu Arg Pro Val Gln His Arg |     |     |     |
|   | 85  | 90  | 95  |
| Glu Val Gln Gly Asn Glu Ser Asp Leu Phe Met Ser Tyr Phe Pro Arg |     |     |     |
|   | 100 | 105 | 110 |
| Gly Leu Lys Tyr Gln Glu Gly Gly Val Glu Ser Ala Phe His Lys Thr |     |     |     |
|   | 115 | 120 | 125 |
| Ser Thr Gly Ala Pro Ala Ala Ile Lys Lys Leu Tyr Gln Val Lys Gly |     |     |     |
|   | 130 | 135 | 140 |
| Lys Lys Asn Ile Arg Ala Thr Glu Arg Ala Leu Asn Trp Asp Ser Phe |     |     |     |
| 145   | 150 | 155 | 160 |

Asn Thr Gly Asp Cys Phe Ile Leu Asp Leu Gly Gln Asn Ile Phe Ala  
 165 170 175  
 Trp Cys Gly Gly Lys Ser Asn Ile Leu Glu Arg Asn Lys Ala Arg Asp  
 180 185 190  
 Leu Ala Leu Ala Ile Arg Asp Ser Glu Arg Gln Gly Lys Ala Gln Val  
 195 200 205  
 Glu Ile Val Thr Asp Gly Glu Glu Pro Ala Glu Met Ile Gln Val Leu  
 210 215 220  
 Gly Pro Lys Pro Ala Leu Lys Glu Gly Asn Pro Glu Glu Asp Leu Thr  
 225 230 235 240  
 Ala Asp Lys Ala Asn Ala Gln Ala Ala Ala Leu Tyr Lys Val Ser Asp  
 245 250 255  
 Ala Thr Gly Gln Met Asn Leu Thr Lys Val Ala Asp Ser Ser Pro Phe  
 260 265 270  
 Ala Leu Glu Leu Leu Ile Ser Asp Asp Cys Phe Val Leu Asp Asn Gly  
 275 280 285  
 Leu Cys Gly Lys Ile Tyr Ile Trp Lys Gly Arg Lys Ala Asn Glu Lys  
 290 295 300  
 Glu Arg Gln Ala Ala Leu Gln Val Ala Glu Gly Phe Ile Ser Arg Met  
 305 310 315 320  
 Gln Tyr Ala Pro Asn Thr Gln Val Glu Ile Leu Pro Gln Gly Arg Glu  
 325 330 335  
 Ser Pro Ile Phe Lys Gln Phe Phe Lys Asp Trp Lys  
 325 345

<210> 51  
 <211> 346  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Annexin I  
 <222> (1)..(346)  
 <223> Accession NO: as of 10 Dec 2002: P04083  
 <400> 51

Met Ala Met Val Ser Glu Phe Leu Lys Gln Ala Trp Phe Ile Glu Asn  
 1 5 10 15  
 Glu Glu Gln Glu Tyr Val Gln Thr Val Lys Ser Ser Lys Gly Gly Pro  
 20 25 30  
 Gly Ser Ala Val Ser Pro Tyr Pro Thr Phe Asn Pro Ser Ser Asp Val

|   |   |     |
|---|---|-----|
| 35  | 40  | 45  |
| Ala Ala Leu His Lys   | Ala Ile Met Val Lys Gly Val Asp Glu Ala Thr |     |
| 50  | 55  | 60  |
| Ile Ile Asp Ile Leu Thr Lys Arg Asn Asn Ala Gln Arg Gln Gln Ile |   |     |
| 65  | 70  | 75  |
| Lys Ala Ala Tyr Leu Gln Glu Thr Gly Lys Pro Leu Asp Glu Thr Leu |   |     |
| 85  | 90  | 95  |
| Lys Lys Ala Leu Thr Gly His Leu Glu Glu Val Val Leu Ala Leu Leu |   |     |
| 100   | 105   | 110 |
| Lys Thr Pro Ala Gln Phe Asp Ala Asp Glu Leu Arg Ala Ala Met Lys |   |     |
| 115   | 120   | 125 |
| Gly Leu Gly Thr Asp Glu Asp Thr Leu Ile Glu Ile Leu Ala Ser Arg |   |     |
| 130   | 135   | 140 |
| Thr Asn Lys Glu Ile Arg Asp Ile Asn Arg Val Tyr Arg Glu Glu Leu |   |     |
| 145   | 150   | 155 |
| Lys Arg Asp Leu Ala Lys Asp Ile Thr Ser Asp Thr Ser Gly Asp Phe |   |     |
| 165   | 170   | 175 |
| Arg Asn Ala Leu Leu Ser Leu Ala Lys Gly Asp Arg Ser Glu Asp Phe |   |     |
| 180   | 185   | 190 |
| Gly Val Asn Glu Asp Leu Ala Asp Ser Asp Ala Arg Ala Leu Tyr Glu |   |     |
| 195   | 200   | 205 |
| Ala Gly Glu Arg Arg Lys Gly Thr Asp Val Asn Val Phe Asn Thr Ile |   |     |
| 210   | 215   | 220 |
| Leu Thr Thr Arg Ser Tyr Pro Gln Leu Arg Arg Val Phe Gln Lys Tyr |   |     |
| 225   | 230   | 235 |
| Thr Lys Tyr Ser Lys His Asp Met Asn Lys Val Leu Asp Leu Glu Leu |   |     |
| 245   | 250   | 255 |
| Lys Gly Asp Ile Glu Lys Cys Leu Thr Ala Ile Val Lys Cys Ala Thr |   |     |
| 260   | 265   | 270 |
| Ser Lys Pro Ala Phe Phe Ala Glu Lys Leu His Gln Ala Met Lys Gly |   |     |
| 275   | 280   | 285 |
| Val Gly Thr Arg His Lys Ala Leu Ile Arg Ile Met Val Ser Arg Ser |   |     |
| 290   | 295   | 300 |
| Glu Ile Asp Met Asn Asp Ile Lys Ala Phe Tyr Gln Lys Met Tyr Gly |   |     |
| 305   | 310   | 315 |
| Ile Ser Leu Cys Gln Ala Ile Leu Asp Glu Thr Lys Gly Asp Tyr Glu |   |     |
| 325   | 330   | 335 |
| Lys Ile Leu Val Ala Leu Cys Gly Gly Asn                         |   |     |
| 325   | 345   |     |

<210> 52  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Keratin, type II cytoskeletal 7  
 <222> (1)..(469)  
 <223> Accession NO: as of 10 Dec 2002: P08729  
 <400> 52

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Met Ser Ile His Phe Ser Ser Pro Val Phe Thr Ser Arg Ser Ala Ala
1           5           10           15
Phe Ser Gly Arg Gly Ala Gln Val Arg Leu Ser Ser Ala Arg Pro Gly
           20           25           30
Gly Leu Gly Ser Ser Ser Leu Tyr Gly Leu Gly Ala Ser Arg Pro Arg
           35           40           45
Val Ala Val Arg Ser Ala Tyr Gly Gly Pro Val Gly Ala Gly Ile Arg
           50           55           60
Glu Val Thr Ile Asn Gln Ser Leu Leu Ala Pro Leu Arg Leu Asp Ala
65           70           75           80
Asp Pro Ser Leu Gln Arg Val Arg Gln Glu Glu Ser Glu Gln Ile Lys
           85           90           95
Thr Leu Asn Asn Lys Phe Ala Ser Phe Ile Asp Lys Val Arg Phe Leu
           100          105          110
Glu Gln Gln Asn Lys Leu Leu Glu Thr Lys Trp Thr Leu Leu Gln Glu
           115          120          125
Gln Lys Ser Ala Lys Ser Ser Arg Leu Pro Asp Ile Phe Glu Ala Gln
           130          135          140
Ile Ala Gly Leu Arg Gly Gln Leu Glu Ala Leu Gln Val Asp Gly Gly
145          150          155          160
Arg Leu Glu Gln Gly Leu Arg Thr Met Gln Asp Val Val Glu Asp Phe
           165          170          175
Lys Asn Lys Tyr Glu Asp Glu Ile Asn Arg Arg Thr Ala Ala Glu Asn
           180          185          190
Glu Phe Val Val Leu Lys Lys Asp Val Asp Ala Ala Tyr Met Ser Lys
           195          200          205
Val Glu Leu Glu Ala Lys Val Asp Ala Leu Asn Asp Glu Ile Asn Phe
           210          215          220
Leu Arg Thr Leu Asn Glu Thr Glu Leu Thr Glu Leu Gln Ser Gln Ile
225          230          235          240
Ser Asp Thr Ser Val Val Leu Ser Met Asp Asn Ser Arg Ser Leu Asp

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 245 |     | 250 |     | 255 |     |     |     |     |     |     |     |     |     |     |
| Leu | Asp | Gly | Ile | Ile | Ala | Glu | Val | Lys | Ala | Gln | Tyr | Glu | Glu | Met | Ala |
|     | 260 |     | 265 |     | 270 |     |     |     |     |     |     |     |     |     |     |
| Lys | Cys | Ser | Arg | Ala | Glu | Ala | Glu | Ala | Trp | Tyr | Gln | Thr | Lys | Phe | Glu |
|     | 275 |     | 280 |     | 285 |     |     |     |     |     |     |     |     |     |     |
| Thr | Leu | Gln | Ala | Gln | Ala | Gly | Lys | His | Gly | Asp | Asp | Leu | Arg | Asn | Thr |
|     | 290 |     | 295 |     | 300 |     |     |     |     |     |     |     |     |     |     |
| Arg | Asn | Glu | Ile | Ser | Glu | Met | Asn | Arg | Ala | Ile | Gln | Arg | Leu | Gln | Ala |
| 305 |     |     | 310 |     | 315 |     |     |     |     |     |     |     |     |     | 320 |
| Glu | Ile | Asp | Asn | Ile | Lys | Asn | Gln | Arg | Ala | Lys | Leu | Glu | Ala | Ala | Ile |
|     | 325 |     | 330 |     | 335 |     |     |     |     |     |     |     |     |     |     |
| Ala | Glu | Ala | Glu | Glu | Arg | Gly | Glu | Leu | Ala | Leu | Lys | Asp | Ala | Arg | Ala |
|     | 340 |     | 345 |     | 350 |     |     |     |     |     |     |     |     |     |     |
| Lys | Gln | Glu | Glu | Leu | Glu | Ala | Ala | Leu | Gln | Arg | Ala | Lys | Gln | Asp | Met |
|     | 355 |     | 360 |     | 365 |     |     |     |     |     |     |     |     |     |     |
| Ala | Arg | Gln | Leu | Arg | Glu | Tyr | Gln | Glu | Leu | Met | Ser | Val | Lys | Leu | Ala |
|     | 370 |     | 375 |     | 380 |     |     |     |     |     |     |     |     |     |     |
| Leu | Asp | Ile | Glu | Ile | Ala | Thr | Tyr | Arg | Lys | Leu | Leu | Glu | Gly | Glu | Glu |
| 385 |     |     | 390 |     | 395 |     |     |     |     |     |     |     |     |     | 400 |
| Ser | Arg | Leu | Ala | Gly | Asp | Gly | Val | Gly | Ala | Val | Asn | Ile | Ser | Val | Met |
|     | 405 |     | 410 |     | 415 |     |     |     |     |     |     |     |     |     |     |
| Asn | Ser | Thr | Gly | Gly | Ser | Ser | Ser | Gly | Gly | Gly | Ile | Gly | Leu | Thr | Leu |
|     | 420 |     | 425 |     | 430 |     |     |     |     |     |     |     |     |     |     |
| Gly | Gly | Thr | Met | Gly | Ser | Asn | Ala | Leu | Ser | Phe | Ser | Ser | Ser | Ala | Gly |
|     | 435 |     | 440 |     | 445 |     |     |     |     |     |     |     |     |     |     |
| Pro | Gly | Leu | Leu | Lys | Ala | Tyr | Ser | Ile | Arg | Thr | Ala | Ser | Ala | Ser | Arg |
|     | 450 |     | 455 |     | 460 |     |     |     |     |     |     |     |     |     |     |
| Arg | Ser | Ala | Arg | Asp |     |     |     |     |     |     |     |     |     |     |     |
| 465 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 53  
 <211> 836  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Osteoblast specific factor 2 precursor  
 <222> (1)..(836)  
 <223> Accession NO: as of 10 Dec 2002: Q15063  
 <400> 53

Met Ile Pro Phe Leu Pro Met Phe Ser Leu Leu Leu Leu Leu Ile Val  
 1 5 10 15  
 Asn Pro Ile Asn Ala Asn Asn His Tyr Asp Lys Ile Leu Ala His Ser  
 20 25 30  
 Arg Ile Arg Gly Arg Asp Gln Gly Pro Asn Val Cys Ala Leu Gln Gln  
 35 40 45  
 Ile Leu Gly Thr Lys Lys Lys Tyr Phe Ser Thr Cys Lys Asn Trp Tyr  
 50 55 60  
 Lys Lys Ser Ile Cys Gly Gln Lys Thr Thr Val Leu Tyr Glu Cys Cys  
 65 70 75 80  
 Pro Gly Tyr Met Arg Met Glu Gly Met Lys Gly Cys Pro Ala Val Leu  
 85 90 95  
 Pro Ile Asp His Val Tyr Gly Thr Leu Gly Ile Val Gly Ala Thr Thr  
 100 105 110  
 Thr Gln Arg Tyr Ser Asp Ala Ser Lys Leu Arg Glu Glu Ile Glu Gly  
 115 120 125  
 Lys Gly Ser Phe Thr Tyr Phe Ala Pro Ser Asn Glu Ala Trp Asp Asn  
 130 135 140  
 Leu Asp Ser Asp Ile Arg Arg Gly Leu Glu Ser Asn Val Asn Val Glu  
 145 150 155 160  
 Leu Leu Asn Ala Leu His Ser His Met Ile Asn Lys Arg Met Leu Thr  
 165 170 175  
 Lys Asp Leu Lys Asn Gly Met Ile Ile Pro Ser Met Tyr Asn Asn Leu  
 180 185 190  
 Gly Leu Phe Ile Asn His Tyr Pro Asn Gly Val Val Thr Val Asn Cys  
 195 200 205  
 Ala Arg Ile Ile His Gly Asn Gln Ile Ala Thr Asn Gly Val Val His  
 210 215 220  
 Val Ile Asp Arg Val Leu Thr Gln Ile Gly Thr Ser Ile Gln Asp Phe  
 225 230 235 240  
 Ile Glu Ala Glu Asp Asp Leu Ser Ser Phe Arg Ala Ala Ala Ile Thr  
 245 250 255  
 Ser Asp Ile Leu Glu Ala Leu Gly Arg Asp Gly His Phe Thr Leu Phe  
 260 265 270  
 Ala Pro Thr Asn Glu Ala Phe Glu Lys Leu Pro Arg Gly Val Leu Glu  
 275 280 285  
 Arg Phe Met Gly Asp Lys Val Ala Ser Glu Ala Leu Met Lys Tyr His  
 290 295 300  
 Ile Leu Asn Thr Leu Gln Cys Ser Glu Ser Ile Met Gly Gly Ala Val  
 305 310 315 320  
 Phe Glu Thr Leu Glu Gly Asn Thr Ile Glu Ile Gly Cys Asp Gly Asp



Arg Gly Ser Thr Phe Lys Glu Ile Pro Val Thr Val Tyr Thr Thr Lys  
                   660                                  665                                  670  
 Ile Ile Thr Lys Val Val Glu Pro Lys Ile Lys Val Ile Glu Gly Ser  
                   675                                  680                                  685  
 Leu Gln Pro Ile Ile Lys Thr Glu Gly Pro Thr Leu Thr Lys Val Lys  
                   690                                  695                                  700  
 Ile Glu Gly Glu Pro Glu Phe Arg Leu Ile Lys Glu Gly Glu Thr Ile  
 705                                  710                                  715                                  720  
 Thr Glu Val Ile His Gly Glu Pro Ile Ile Lys Lys Tyr Thr Lys Ile  
                                   725                                  730                                  735  
 Ile Asp Gly Val Pro Val Glu Ile Thr Glu Lys Glu Thr Arg Glu Glu  
                   740                                  745                                  750  
 Arg Ile Ile Thr Gly Pro Glu Ile Lys Tyr Thr Arg Ile Ser Thr Gly  
                   755                                  760                                  765  
 Gly Gly Glu Thr Glu Glu Thr Leu Lys Lys Leu Leu Gln Glu Glu Val  
                   770                                  775                                  780  
 Thr Lys Val Thr Lys Phe Ile Glu Gly Gly Asp Gly His Leu Phe Glu  
 785                                  790                                  795                                  800  
 Asp Glu Glu Ile Lys Arg Leu Leu Gln Gly Asp Thr Pro Val Arg Lys  
                                   805                                  810                                  815  
 Leu Gln Ala Asn Lys Lys Val Gln Gly Ser Arg Arg Arg Leu Arg Glu  
                   820                                  825                                  830  
 Gly Arg Ser Gln  
                   835

<210> 54  
 <211> 687  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Protein-glutamine gamma-glutamyltransferase  
 <222> (1)..(687)  
 <223> Accession NO: P21980  
 <400> 54

Met Ala Glu Glu Leu Val Leu Glu Arg Cys Asp Leu Glu Leu Glu Thr  
 1                                  5                                  10                                  15  
 Asn Gly Arg Asp His His Thr Ala Asp Leu Cys Arg Glu Lys Leu Val  
                   20                                  25                                  30  
 Val Arg Arg Gly Gln Pro Phe Trp Leu Thr Leu His Phe Glu Gly Arg



|                             |                         |                     |
|-----------------------------|-------------------------|---------------------|
| 35                          | 40                      | 45                  |
| Asn Tyr Glu Ala Ser Val     | Asp Ser Leu Thr Phe     | Ser Val Val Thr Gly |
| 50                          | 55                      | 60                  |
| Pro Ala Pro Ser Gln Glu Ala | Gly Thr Lys Ala Arg Phe | Pro Leu Arg         |
| 65                          | 70                      | 75                  |
| Asp Ala Val Glu Glu Gly Asp | Trp Thr Ala Thr Val Val | Asp Gln Gln         |
| 85                          | 90                      | 95                  |
| Asp Cys Thr Leu Ser Leu Gln | Leu Thr Thr Pro Ala Asn | Ala Pro Ile         |
| 100                         | 105                     | 110                 |
| Gly Leu Tyr Arg Leu Ser Leu | Glu Ala Ser Thr Gly Tyr | Gln Gly Ser         |
| 115                         | 120                     | 125                 |
| Ser Phe Val Leu Gly His Phe | Ile Leu Leu Phe Asn Ala | Trp Cys Pro         |
| 130                         | 135                     | 140                 |
| Ala Asp Ala Val Tyr Leu Asp | Ser Glu Glu Glu Arg Gln | Glu Tyr Val         |
| 145                         | 150                     | 155                 |
| Leu Thr Gln Gln Gly Phe Ile | Tyr Gln Gly Ser Ala Lys | Phe Ile Lys         |
| 165                         | 170                     | 175                 |
| Asn Ile Pro Trp Asn Phe Gly | Gln Phe Glu Asp Gly Ile | Leu Asp Ile         |
| 180                         | 185                     | 190                 |
| Cys Leu Ile Leu Leu Asp Val | Asn Pro Lys Phe Leu Lys | Asn Ala Gly         |
| 195                         | 200                     | 205                 |
| Arg Asp Cys Ser Arg Arg Ser | Ser Pro Val Tyr Val Gly | Arg Val Val         |
| 210                         | 215                     | 220                 |
| Ser Gly Met Val Asn Cys Asn | Asp Asp Gln Gly Val Leu | Leu Gly Arg         |
| 225                         | 230                     | 235                 |
| Trp Asp Asn Asn Tyr Gly Asp | Gly Val Ser Pro Met Ser | Trp Ile Gly         |
| 245                         | 250                     | 255                 |
| Ser Val Asp Ile Leu Arg Arg | Trp Lys Asn His Gly Cys | Gln Arg Val         |
| 260                         | 265                     | 270                 |
| Lys Tyr Gly Gln Cys Trp Val | Phe Ala Ala Val Ala Cys | Thr Val Leu         |
| 275                         | 280                     | 285                 |
| Arg Cys Leu Gly Ile Pro Thr | Arg Val Val Thr Asn Tyr | Asn Ser Ala         |
| 290                         | 295                     | 300                 |
| His Asp Gln Asn Ser Asn Leu | Leu Ile Glu Tyr Phe Arg | Asn Glu Phe         |
| 305                         | 310                     | 315                 |
| Gly Glu Ile Gln Gly Asp Lys | Ser Glu Met Ile Trp Asn | Phe His Cys         |
| 325                         | 330                     | 335                 |
| Trp Val Glu Ser Trp Met Thr | Arg Pro Asp Leu Gln Pro | Gly Tyr Glu         |
| 340                         | 345                     | 350                 |
| Gly Trp Gln Ala Leu Asp Pro | Thr Pro Gln Glu Lys Ser | Glu Gly Thr         |
| 355                         | 360                     | 365                 |



<210> 55  
 <211> 204  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Rho GDP-dissociation inhibitor 1  
 <222> (1)..(204)  
 <223> Accession NO: as of 10 Dec 2002: P52565  
 <400> 55

```

Met Ala Glu Gln Glu Pro Thr Ala Glu Gln Leu Ala Gln Ile Ala Ala
1              5              10              15
Glu Asn Glu Glu Asp Glu His Ser Val Asn Tyr Lys Pro Pro Ala Gln
              20              25              30
Lys Ser Ile Gln Glu Ile Gln Glu Leu Asp Lys Asp Asp Glu Ser Leu
              35              40              45
Arg Lys Tyr Lys Glu Ala Leu Leu Gly Arg Val Ala Val Ser Ala Asp
              50              55              60
Pro Asn Val Pro Asn Val Val Val Thr Gly Leu Thr Leu Val Cys Ser
65              70              75              80
Ser Ala Pro Gly Pro Leu Glu Leu Asp Leu Thr Gly Asp Leu Glu Ser
              85              90              95
Phe Lys Lys Gln Ser Phe Val Leu Lys Glu Gly Val Glu Tyr Arg Ile
              100             105             110
Lys Ile Ser Phe Arg Val Asn Arg Glu Ile Val Ser Gly Met Lys Tyr
              115             120             125
Ile Gln His Thr Tyr Arg Lys Gly Val Lys Ile Asp Lys Thr Asp Tyr
              130             135             140
Met Val Gly Ser Tyr Gly Pro Arg Ala Glu Glu Tyr Glu Phe Leu Thr
145             150             155             160
Pro Val Glu Glu Ala Pro Lys Gly Met Leu Ala Arg Gly Ser Tyr Ser
              165             170             175
Ile Lys Ser Arg Phe Thr Asp Asp Asp Lys Thr Asp His Leu Ser Trp
              180             185             190
Glu Trp Asn Leu Thr Ile Lys Lys Asp Trp Lys Asp
              325 200
  
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<210> 56  
 <211> 492



|   |     |     |
|---|-----|-----|
| 260   | 265 | 270 |
| Val Arg Gln Gly Val Asn Val Ser Ala Asn Gln Asp Asp Glu Leu Asp |     |     |
| 275   | 280 | 285 |
| His Glu Thr Phe Leu Met Gln Ile Asp Gln Glu Thr Lys Lys Cys Thr |     |     |
| 290   | 295 | 300 |
| Phe Tyr Ser Ser Thr Gly Gly Tyr Trp Thr Leu Val Thr His Gly Gly |     |     |
| 305   | 310 | 315 |
| Ile His Ala Thr Ala Thr Gln Val Ser Ala Asn Thr Met Phe Glu Met |     |     |
| 325   | 330 | 335 |
| Glu Trp Arg Gly Arg Arg Val Ala Leu Lys Ala Ser Asn Gly Arg Tyr |     |     |
| 340   | 345 | 350 |
| Val Cys Met Lys Lys Asn Gly Gln Leu Ala Ala Ile Ser Asp Phe Val |     |     |
| 355   | 360 | 365 |
| Gly Lys Asp Glu Glu Phe Thr Leu Lys Leu Ile Asn Arg Pro Ile Leu |     |     |
| 370   | 375 | 380 |
| Val Leu Arg Gly Leu Asp Gly Phe Val Cys His His Arg Gly Ser Asn |     |     |
| 385   | 390 | 395 |
| Gln Leu Asp Thr Asn Arg Ser Val Tyr Asp Val Phe His Leu Ser Phe |     |     |
| 405   | 410 | 415 |
| Ser Asp Gly Ala Tyr Arg Ile Arg Gly Arg Asp Gly Gly Phe Trp Tyr |     |     |
| 420   | 425 | 430 |
| Thr Gly Ser His Gly Ser Val Cys Ser Asp Gly Glu Arg Ala Glu Asp |     |     |
| 435   | 440 | 445 |
| Phe Val Phe Glu Phe Arg Glu Arg Gly Arg Leu Ala Ile Arg Ala Arg |     |     |
| 450   | 455 | 460 |
| Ser Gly Lys Tyr Leu Arg Gly Gly Ala Ser Gly Leu Leu Arg Ala Asp |     |     |
| 465   | 470 | 475 |
| Ala Asp Ala Pro Ala Gly Thr Ala Leu Trp Glu Tyr                 |     |     |
| 325   | 490 |     |

<210> 57  
 <211> 165  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Destrin (Actin-depolymerizing factor) (ADF)  
 <222> (1)..(165)  
 <223> Accession NO: as of 29 August 2003: P18282  
 <400> 57

Met Ala Ser Gly Val Gln Val Ala Asp Glu Val Cys Arg Ile Phe Tyr  
 1 5 10 15  
 Asp Met Lys Val Arg Lys Cys Ser Thr Pro Glu Glu Ile Lys Lys Arg  
 20 25 30  
 Lys Lys Ala Val Ile Phe Cys Leu Ser Ala Asp Lys Lys Cys Ile Ile  
 35 40 45  
 Val Glu Glu Gly Lys Glu Ile Leu Val Gly Asp Val Gly Val Thr Ile  
 50 55 60  
 Thr Asp Pro Phe Lys His Phe Val Gly Met Leu Pro Glu Lys Asp Cys  
 65 70 75 80  
 Arg Tyr Ala Leu Tyr Asp Ala Ser Phe Glu Thr Lys Glu Ser Arg Lys  
 85 90 95  
 Glu Glu Leu Met Phe Phe Leu Trp Ala Pro Glu Leu Ala Pro Leu Lys  
 100 105 110  
 Ser Lys Met Ile Tyr Ala Ser Ser Lys Asp Ala Ile Lys Lys Lys Phe  
 115 120 125  
 Gln Gly Ile Lys His Glu Cys Gln Ala Asn Gly Pro Glu Asp Leu Asn  
 130 135 140  
 Arg Ala Cys Ile Ala Glu Lys Leu Gly Gly Ser Leu Ile Val Ala Phe  
 145 150 155 160  
 Glu Gly Cys Pro Val  
 165

<210> 58  
 <211> 492  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Fascin  
 <222> (1)..(492)  
 <223> Accession NO: as of 29 August 2003: Q16658  
 <400> 58

Thr Ala Asn Gly Thr Ala Glu Ala Val Gln Ile Gln Phe Gly Leu Ile  
 1 5 10 15  
 Asn Cys Gly Asn Lys Tyr Leu Thr Ala Glu Ala Phe Gly Phe Lys Val  
 20 25 30  
 Asn Ala Ser Ala Ser Ser Leu Lys Lys Lys Gln Ile Trp Thr Leu Glu  
 35 40 45  
 Gln Pro Pro Asp Glu Ala Gly Ser Ala Ala Val Cys Leu Arg Ser His

|   |     |    |     |     |
|---|-----|----|-----|-----|
| 50  |     | 55 |     | 60  |
| Leu Gly Arg Tyr Leu Ala Ala Asp Lys Asp Gly Asn Val Thr Cys Glu |     |    |     |     |
| 65  | 70  |    | 75  | 80  |
| Arg Glu Val Pro Gly Pro Asp Cys Arg Phe Leu Ile Val Ala His Asp |     |    |     |     |
|   | 85  |    | 90  | 95  |
| Asp Gly Arg Trp Ser Leu Gln Ser Glu Ala His Arg Arg Tyr Phe Gly |     |    |     |     |
|   | 100 |    | 105 | 110 |
| Gly Thr Glu Asp Arg Leu Ser Cys Phe Ala Gln Thr Val Ser Pro Ala |     |    |     |     |
|   | 115 |    | 120 | 125 |
| Glu Lys Trp Ser Val His Ile Ala Met His Pro Gln Val Asn Ile Tyr |     |    |     |     |
|   | 130 |    | 135 | 140 |
| Ser Val Thr Arg Lys Arg Tyr Ala His Leu Ser Ala Arg Pro Ala Asp |     |    |     |     |
| 145   | 150 |    | 155 | 160 |
| Glu Ile Ala Val Asp Arg Asp Val Pro Trp Gly Val Asp Ser Leu Ile |     |    |     |     |
|   | 165 |    | 170 | 175 |
| Thr Leu Ala Phe Gln Asp Gln Arg Tyr Ser Val Gln Thr Ala Asp His |     |    |     |     |
|   | 180 |    | 185 | 190 |
| Arg Phe Leu Arg His Asp Gly Arg Leu Val Ala Arg Pro Glu Pro Ala |     |    |     |     |
|   | 195 |    | 200 | 205 |
| Thr Gly Tyr Thr Leu Glu Phe Arg Ser Gly Lys Val Ala Phe Arg Asp |     |    |     |     |
|   | 210 |    | 215 | 220 |
| Cys Glu Gly Arg Tyr Leu Ala Pro Ser Gly Pro Ser Gly Thr Leu Lys |     |    |     |     |
| 225   | 230 |    | 235 | 240 |
| Ala Gly Lys Ala Thr Lys Val Gly Lys Asp Glu Leu Phe Ala Leu Glu |     |    |     |     |
|   | 245 |    | 250 | 255 |
| Gln Ser Cys Ala Gln Val Val Leu Gln Ala Ala Asn Glu Arg Asn Val |     |    |     |     |
|   | 260 |    | 265 | 270 |
| Ser Thr Arg Gln Gly Met Asp Leu Ser Ala Asn Gln Asp Glu Glu Thr |     |    |     |     |
|   | 275 |    | 280 | 285 |
| Asp Gln Glu Thr Phe Gln Leu Glu Ile Asp Arg Asp Thr Lys Lys Cys |     |    |     |     |
|   | 290 |    | 295 | 300 |
| Ala Phe Arg Thr His Thr Gly Lys Tyr Trp Thr Leu Thr Ala Thr Gly |     |    |     |     |
| 305   | 310 |    | 315 | 320 |
| Gly Val Gln Ser Thr Ala Ser Ser Lys Asn Ala Ser Cys Tyr Phe Asp |     |    |     |     |
|   | 325 |    | 330 | 335 |
| Ile Glu Trp Arg Asp Arg Arg Ile Thr Leu Arg Ala Ser Asn Gly Lys |     |    |     |     |
|   | 340 |    | 345 | 350 |
| Phe Val Thr Ser Lys Lys Asn Gly Gln Leu Ala Ala Ser Val Glu Thr |     |    |     |     |
|   | 355 |    | 360 | 365 |
| Ala Gly Asp Ser Glu Leu Phe Leu Met Lys Leu Ile Asn Arg Pro Ile |     |    |     |     |
| 370   | 375 |    | 380 |     |

Ile Val Phe Arg Gly Glu His Gly Phe Ile Gly Cys Arg Lys Val Thr  
 385 390 395 400  
 Gly Thr Leu Asp Ala Asn Arg Ser Ser Tyr Asp Val Phe Gln Leu Glu  
 405 410 415  
 Phe Asn Asp Gly Ala Tyr Asn Ile Lys Asp Ser Thr Gly Lys Tyr Trp  
 420 425 430  
 Thr Val Gly Ser Asp Ser Ala Val Thr Ser Ser Gly Asp Thr Pro Val  
 435 440 445  
 Asp Phe Phe Phe Glu Phe Cys Asp Tyr Asn Lys Val Ala Ile Lys Val  
 450 455 460  
 Gly Gly Arg Tyr Leu Lys Gly Asp His Ala Gly Val Leu Lys Ala Ser  
 465 470 475 480  
 Ala Glu Thr Val Asp Pro Ala Ser Leu Trp Glu Tyr  
 325 490

<210> 59  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Apo-E precursor  
 <222> (1)..(317)  
 <223> Accession NO: as of 29 August 2003: P02649  
 <400> 59

Met Lys Val Leu Trp Ala Ala Leu Leu Val Thr Phe Leu Ala Gly Cys  
 1 5 10 15  
 Gln Ala Lys Val Glu Gln Ala Val Glu Thr Glu Pro Glu Pro Glu Leu  
 20 25 30  
 Arg Gln Gln Thr Glu Trp Gln Ser Gly Gln Arg Trp Glu Leu Ala Leu  
 35 40 45  
 Gly Arg Phe Trp Asp Tyr Leu Arg Trp Val Gln Thr Leu Ser Glu Gln  
 50 55 60  
 Val Gln Glu Glu Leu Leu Ser Ser Gln Val Thr Gln Glu Leu Arg Ala  
 65 70 75 80  
 Leu Met Asp Glu Thr Met Lys Glu Leu Lys Ala Tyr Lys Ser Glu Leu  
 85 90 95  
 Glu Glu Gln Leu Thr Pro Val Ala Glu Glu Thr Arg Ala Arg Leu Ser  
 100 105 110  
 Lys Glu Leu Gln Ala Ala Gln Ala Arg Leu Gly Ala Asp Met Glu Asp



|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Val Cys Gly Arg Leu Val Gln Tyr Arg Gly Glu Val Gln Ala Met Leu |     |     |
| 130   | 135 | 140 |
| Gly Gln Ser Thr Glu Glu Leu Arg Val Arg Leu Ala Ser His Leu Arg |     |     |
| 145   | 150 | 155 |
| Lys Leu Arg Lys Arg Leu Leu Arg Asp Ala Asp Asp Leu Gln Lys Arg |     |     |
| 165   | 170 | 175 |
| Leu Ala Val Tyr Gln Ala Gly Ala Arg Glu Gly Ala Glu Arg Gly Leu |     |     |
| 180   | 185 | 190 |
| Ser Ala Ile Arg Glu Arg Leu Gly Pro Leu Val Glu Gln Gly Arg Val |     |     |
| 195   | 200 | 205 |
| Arg Ala Ala Thr Val Gly Ser Leu Ala Gly Gln Pro Leu Gln Glu Arg |     |     |
| 210   | 215 | 220 |
| Ala Gln Ala Trp Gly Glu Arg Leu Arg Ala Arg Met Glu Glu Met Gly |     |     |
| 225   | 230 | 235 |
| Ser Arg Thr Arg Asp Arg Leu Asp Glu Val Lys Glu Gln Val Ala Glu |     |     |
| 245   | 250 | 255 |
| Val Arg Ala Lys Leu Glu Glu Gln Ala Gln Gln Ile Arg Leu Gln Ala |     |     |
| 260   | 265 | 270 |
| Glu Ala Phe Gln Ala Arg Leu Lys Ser Trp Phe Glu Pro Leu Val Glu |     |     |
| 275   | 280 | 285 |
| Asp Met Gln Arg Gln Trp Ala Gly Leu Val Glu Lys Val Gln Ala Ala |     |     |
| 290   | 295 | 300 |
| Val Gly Thr Ser Ala Ala Pro Val Pro Ser Asp Asn His             |     |     |
| 305   | 310 | 315 |

<210> 60  
 <211> 838  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> hypothetical 88.6 kDa protein  
 <222> (1)..(838)  
 <223> Accession NO: as of 29 August 2003: Q96C61  
 <400> 60

|   |
|---|
| Met Pro Ser Gly Lys Val Ala Gln Pro Thr Ile Thr Asp Asn Lys Asp |
| 1 5 10 15   |
| Gly Thr Val Thr Val Arg Tyr Ala Pro Ser Glu Ala Gly Leu His Glu |
| 20 25 30  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Ile | Arg | Tyr | Asp | Asn | Met | His | Ile | Pro | Gly | Ser | Pro | Leu | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Phe | Tyr | Val | Asp | Tyr | Val | Asn | Cys | Gly | His | Val | Thr | Ala | Tyr | Gly | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Leu | Thr | His | Gly | Val | Val | Asn | Lys | Pro | Ala | Thr | Phe | Thr | Val | Asn |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Lys | Asp | Ala | Gly | Glu | Gly | Gly | Leu | Ser | Leu | Ala | Ile | Glu | Gly | Pro |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Ser | Lys | Ala | Glu | Ile | Ser | Cys | Thr | Asp | Asn | Gln | Asp | Gly | Thr | Cys | Ser |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Val | Ser | Tyr | Leu | Pro | Val | Leu | Pro | Gly | Asp | Tyr | Ser | Ile | Leu | Val | Lys |
|     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Tyr | Asn | Glu | Gln | His | Val | Pro | Gly | Ser | Pro | Phe | Thr | Ala | Arg | Val | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Asp | Asp | Ser | Met | Arg | Met | Ser | His | Leu | Lys | Val | Gly | Ser | Ala | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asp | Ile | Pro | Ile | Asn | Ile | Ser | Glu | Thr | Asp | Leu | Ser | Leu | Leu | Thr | Ala |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Val | Val | Pro | Pro | Ser | Gly | Arg | Glu | Glu | Pro | Cys | Leu | Leu | Lys | Arg |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Leu | Arg | Asn | Gly | His | Val | Gly | Ile | Ser | Phe | Val | Pro | Lys | Glu | Thr | Gly |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | His | Leu | Val | His | Val | Lys | Lys | Asn | Gly | Gln | His | Val | Ala | Ser | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Pro | Ile | Pro | Val | Val | Ile | Ser | Gln | Ser | Glu | Ile | Gly | Asp | Ala | Ser | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Arg | Val | Ser | Gly | Gln | Gly | Leu | His | Glu | Gly | His | Thr | Phe | Glu | Pro |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Ala | Glu | Phe | Ile | Ile | Asp | Thr | Arg | Asp | Ala | Gly | Tyr | Gly | Gly | Leu | Ser |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Leu | Ser | Ile | Glu | Gly | Pro | Ser | Lys | Val | Asp | Ile | Asn | Thr | Glu | Asp | Leu |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Asp | Gly | Thr | Cys | Arg | Val | Thr | Tyr | Cys | Pro | Thr | Glu | Pro | Gly | Asn |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Tyr | Ile | Ile | Asn | Ile | Lys | Phe | Ala | Asp | Gln | His | Val | Pro | Gly | Ser | Pro |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Phe | Ser | Val | Lys | Val | Thr | Gly | Glu | Gly | Arg | Val | Lys | Glu | Ser | Ile | Thr |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     | 335 |     |     |
| Arg | Arg | Arg | Arg | Ala | Pro | Ser | Val | Ala | Asn | Val | Gly | Ser | His | Cys | Asp |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |
| Leu | Ser | Leu | Lys | Ile | Pro | Glu | Ile | Ser | Ile | Gln | Asp | Met | Thr | Ala | Gln |

|   |     |     |
|---|-----|-----|
| 355   | 360 | 365 |
| Val Thr Ser Pro Ser Gly Lys Thr His Glu Ala Glu Ile Val Glu Gly |     |     |
| 370   | 375 | 380 |
| Glu Asn His Thr Tyr Cys Ile Arg Phe Val Pro Ala Glu Met Gly Thr |     |     |
| 385   | 390 | 395 |
| His Thr Val Ser Val Lys Tyr Lys Gly Gln His Val Pro Gly Ser Pro |     |     |
| 405   | 410 | 415 |
| Phe Gln Phe Thr Val Gly Pro Leu Gly Glu Gly Gly Ala His Lys Val |     |     |
| 420   | 425 | 430 |
| Arg Ala Gly Gly Pro Gly Leu Glu Arg Ala Glu Ala Gly Val Pro Ala |     |     |
| 435   | 440 | 445 |
| Glu Phe Ser Ile Trp Thr Arg Glu Ala Gly Ala Gly Gly Leu Ala Ile |     |     |
| 450   | 455 | 460 |
| Ala Val Glu Gly Pro Ser Lys Ala Glu Ile Ser Phe Glu Asp Arg Lys |     |     |
| 465   | 470 | 475 |
| Asp Gly Ser Cys Gly Val Ala Tyr Val Val Gln Glu Pro Gly Asp Tyr |     |     |
| 485   | 490 | 495 |
| Glu Val Ser Val Lys Phe Asn Glu Glu His Ile Pro Asp Ser Pro Phe |     |     |
| 500   | 505 | 510 |
| Val Val Pro Val Ala Ser Pro Ser Gly Asp Ala Arg Arg Leu Thr Val |     |     |
| 515   | 520 | 525 |
| Ser Ser Leu Gln Glu Ser Gly Leu Lys Val Asn Gln Pro Ala Ser Phe |     |     |
| 530   | 535 | 540 |
| Ala Val Ser Leu Asn Gly Ala Lys Gly Ala Ile Asp Ala Lys Val His |     |     |
| 545   | 550 | 555 |
| Ser Pro Ser Gly Ala Leu Glu Glu Cys Tyr Val Thr Glu Ile Asp Gln |     |     |
| 565   | 570 | 575 |
| Asp Lys Tyr Ala Val Arg Phe Ile Pro Arg Glu Asn Gly Val Tyr Leu |     |     |
| 580   | 585 | 590 |
| Ile Asp Val Lys Phe Asn Gly Thr His Ile Pro Gly Ser Pro Phe Lys |     |     |
| 595   | 600 | 605 |
| Ile Arg Val Gly Glu Pro Gly His Gly Gly Asp Pro Gly Leu Val Ser |     |     |
| 610   | 615 | 620 |
| Ala Tyr Gly Ala Gly Leu Glu Gly Gly Val Thr Gly Asn Pro Ala Glu |     |     |
| 625   | 630 | 635 |
| Phe Val Val Asn Thr Ser Asn Ala Gly Ala Gly Ala Leu Ser Val Thr |     |     |
| 645   | 650 | 655 |
| Ile Asp Gly Pro Ser Lys Val Lys Met Asp Cys Gln Glu Cys Pro Glu |     |     |
| 660   | 665 | 670 |
| Gly Tyr Arg Val Thr Tyr Thr Pro Met Ala Pro Gly Ser Tyr Leu Ile |     |     |
| 675   | 680 | 685 |

Ser Ile Lys Tyr Gly Gly Pro Tyr His Ile Gly Gly Ser Pro Phe Lys  
 690 695 700  
 Ala Lys Val Thr Gly Pro Arg Leu Val Ser Asn His Ser Leu His Glu  
 705 710 715 720  
 Thr Ser Ser Val Phe Val Asp Ser Leu Thr Lys Ala Thr Cys Ala Pro  
 725 730 735  
 Gln His Gly Ala Pro Gly Pro Gly Pro Ala Asp Ala Ser Lys Val Val  
 740 745 750  
 Ala Lys Gly Leu Gly Leu Ser Lys Ala Tyr Val Gly Gln Lys Ser Ser  
 755 760 765  
 Phe Thr Val Asp Cys Ser Lys Ala Gly Asn Asn Met Leu Leu Val Gly  
 770 775 780  
 Val His Gly Pro Arg Thr Pro Cys Glu Glu Ile Leu Val Lys His Val  
 785 790 795 800  
 Gly Ser Arg Leu Tyr Ser Val Ser Tyr Leu Leu Lys Asp Lys Gly Glu  
 805 810 815  
 Tyr Thr Leu Val Val Lys Trp Gly Asp Glu His Ile Pro Gly Ser Pro  
 820 825 830  
 Tyr Arg Val Val Val Pro  
 835

<210> 61  
 <211> 433  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> human alpha enolase  
 <222> (1)..(433)  
 <223> Accession NO: as of 29 August 2003: P06733  
 <400> 61

Ser Ile Leu Lys Ile His Ala Arg Glu Ile Phe Asp Ser Arg Gly Asn  
 1 5 10 15  
 Pro Thr Val Glu Val Asp Leu Phe Thr Ser Lys Gly Leu Phe Arg Ala  
 20 25 30  
 Ala Val Pro Ser Gly Ala Ser Thr Gly Ile Tyr Glu Ala Leu Glu Leu  
 35 40 45  
 Arg Asp Asn Asp Lys Thr Arg Tyr Met Gly Lys Gly Val Ser Lys Ala  
 50 55 60  
 Val Glu His Ile Asn Lys Thr Ile Ala Pro Ala Leu Val Ser Lys Lys

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |
| Leu Asn Val Thr Glu Gln Glu Lys Ile Asp Lys Leu Met Ile Glu Met |     |     |     |     |     |     |
|   | 85  |     | 90  |     | 95  |     |
| Asp Gly Thr Glu Asn Lys Ser Lys Phe Gly Ala Asn Ala Ile Leu Gly |     |     |     |     |     |     |
|   | 100 |     | 105 |     | 110 |     |
| Val Ser Leu Ala Val Cys Lys Ala Gly Ala Val Glu Lys Gly Val Pro |     |     |     |     |     |     |
|   | 115 |     | 120 |     | 125 |     |
| Leu Tyr Arg His Ile Ala Asp Leu Ala Gly Asn Ser Glu Val Ile Leu |     |     |     |     |     |     |
|   | 130 |     | 135 |     | 140 |     |
| Pro Val Pro Ala Phe Asn Val Ile Asn Gly Gly Ser His Ala Gly Asn |     |     |     |     |     |     |
| 145   |     | 150 |     | 155 |     | 160 |
| Lys Leu Ala Met Gln Glu Phe Met Ile Leu Pro Val Gly Ala Ala Asn |     |     |     |     |     |     |
|   | 165 |     | 170 |     | 175 |     |
| Phe Arg Glu Ala Met Arg Ile Gly Ala Glu Val Tyr His Asn Leu Lys |     |     |     |     |     |     |
|   | 180 |     | 185 |     | 190 |     |
| Asn Val Ile Lys Glu Lys Tyr Gly Lys Asp Ala Thr Asn Val Gly Asp |     |     |     |     |     |     |
|   | 195 |     | 200 |     | 205 |     |
| Glu Gly Gly Phe Ala Pro Asn Ile Leu Glu Asn Lys Glu Gly Leu Glu |     |     |     |     |     |     |
|   | 210 |     | 215 |     | 220 |     |
| Leu Leu Lys Thr Ala Ile Gly Lys Ala Gly Tyr Thr Asp Lys Val Val |     |     |     |     |     |     |
| 225   |     | 230 |     | 235 |     | 240 |
| Ile Gly Met Asp Val Ala Ala Ser Glu Phe Phe Arg Ser Gly Lys Tyr |     |     |     |     |     |     |
|   | 245 |     | 250 |     | 255 |     |
| Asp Leu Asp Phe Lys Ser Pro Asp Asp Pro Ser Arg Tyr Ile Ser Pro |     |     |     |     |     |     |
|   | 260 |     | 265 |     | 270 |     |
| Asp Gln Leu Ala Asp Leu Tyr Lys Ser Phe Ile Lys Asp Tyr Pro Val |     |     |     |     |     |     |
|   | 275 |     | 280 |     | 285 |     |
| Val Ser Ile Glu Asp Pro Phe Asp Gln Asp Asp Trp Gly Ala Trp Gln |     |     |     |     |     |     |
|   | 290 |     | 295 |     | 300 |     |
| Lys Phe Thr Ala Ser Ala Gly Ile Gln Val Val Gly Asp Asp Leu Thr |     |     |     |     |     |     |
| 305   |     | 310 |     | 315 |     | 320 |
| Val Thr Asn Pro Lys Arg Ile Ala Lys Ala Val Asn Glu Lys Ser Cys |     |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |     |
| Asn Cys Leu Leu Leu Lys Val Asn Gln Ile Gly Ser Val Thr Glu Ser |     |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |     |
| Leu Gln Ala Cys Lys Leu Ala Gln Ala Asn Gly Trp Gly Val Met Val |     |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |     |
| Ser His Arg Ser Gly Glu Thr Glu Asp Thr Phe Ile Ala Asp Leu Val |     |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |     |
| Val Gly Leu Cys Thr Gly Gln Ile Lys Thr Gly Ala Pro Cys Arg Ser |     |     |     |     |     |     |
| 385   |     | 390 |     | 395 |     | 400 |

Glu Arg Leu Ala Lys Tyr Asn Gln Leu Leu Arg Ile Glu Glu Glu Leu  
                     405                    410                    415  
 Gly Ser Lys Ala Lys Phe Ala Gly Arg Asn Phe Arg Asn Pro Leu Ala  
                     420                    425                    430  
 Lys

<210> 62  
 <211> 471  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> tryptophanyl-tRNA synthetase  
 <222> (1)..(471)  
 <223> Accession NO: as of 29 August 2003: P23381  
 <400> 62

Met Pro Asn Ser Glu Pro Ala Ser Leu Leu Glu Leu Phe Asn Ser Ile  
 1                    5                    10                    15  
 Ala Thr Gln Gly Glu Leu Val Arg Ser Leu Lys Ala Gly Asn Ala Ser  
                     20                    25                    30  
 Lys Asp Glu Ile Asp Ser Ala Val Lys Met Leu Val Ser Leu Lys Met  
                     35                    40                    45  
 Ser Tyr Lys Ala Ala Ala Gly Glu Asp Tyr Lys Ala Asp Cys Pro Pro  
                     50                    55                    60  
 Gly Asn Pro Ala Pro Thr Ser Asn His Gly Pro Asp Ala Thr Glu Ala  
 65                    70                    75                    80  
 Glu Glu Asp Phe Val Asp Pro Trp Thr Val Gln Thr Ser Ser Ala Lys  
                     85                    90                    95  
 Gly Ile Asp Tyr Asp Lys Leu Ile Val Arg Phe Gly Ser Ser Lys Ile  
                     100                    105                    110  
 Asp Lys Glu Leu Ile Asn Arg Ile Glu Arg Ala Thr Gly Gln Arg Pro  
                     115                    120                    125  
 His His Phe Leu Arg Arg Gly Ile Phe Phe Ser His Arg Asp Met Asn  
                     130                    135                    140  
 Gln Val Leu Asp Ala Tyr Glu Asn Lys Lys Pro Phe Tyr Leu Tyr Thr  
 145                    150                    155                    160  
 Gly Arg Gly Pro Ser Ser Glu Ala Met His Val Gly His Leu Ile Pro  
                     165                    170                    175  
 Phe Ile Phe Thr Lys Trp Leu Gln Asp Val Phe Asn Val Pro Leu Val

|     |   |     |     |     |     |
|-----|---|-----|-----|-----|-----|
|     | 180   |     | 185 |     | 190 |
| Ile | Gln Met Thr Asp Asp Glu Lys Tyr Leu Trp Lys Asp Leu Thr Leu |     |     |     |     |
|     | 195   |     | 200 |     | 205 |
| Asp | Gln Ala Tyr Ser Tyr Ala Val Glu Asn Ala Lys Asp Ile Ile Ala |     |     |     |     |
|     | 210   |     | 215 |     | 220 |
| Cys | Gly Phe Asp Ile Asn Lys Thr Phe Ile Phe Ser Asp Leu Asp Tyr |     |     |     |     |
| 225 |   | 230 |     | 235 | 240 |
| Met | Gly Met Ser Ser Gly Phe Tyr Lys Asn Val Val Lys Ile Gln Lys |     |     |     |     |
|     | 245   |     | 250 |     | 255 |
| His | Val Thr Phe Asn Gln Val Lys Gly Ile Phe Gly Phe Thr Asp Ser |     |     |     |     |
|     | 260   |     | 265 |     | 270 |
| Asp | Cys Ile Gly Lys Ile Ser Phe Pro Ala Ile Gln Ala Ala Pro Ser |     |     |     |     |
|     | 275   |     | 280 |     | 285 |
| Phe | Ser Asn Ser Phe Pro Gln Ile Phe Arg Asp Arg Thr Asp Ile Gln |     |     |     |     |
|     | 290   |     | 295 |     | 300 |
| Cys | Leu Ile Pro Cys Ala Ile Asp Gln Asp Pro Tyr Phe Arg Met Thr |     |     |     |     |
| 305 |   | 310 |     | 315 | 320 |
| Arg | Asp Val Ala Pro Arg Ile Gly Tyr Pro Lys Pro Ala Leu Leu His |     |     |     |     |
|     | 325   |     | 330 |     | 335 |
| Ser | Thr Phe Phe Pro Ala Leu Gln Gly Ala Gln Thr Lys Met Ser Ala |     |     |     |     |
|     | 340   |     | 345 |     | 350 |
| Ser | Asp Pro Asn Ser Ser Ile Phe Leu Thr Asp Thr Ala Lys Gln Ile |     |     |     |     |
|     | 355   |     | 360 |     | 365 |
| Lys | Thr Lys Val Asn Lys His Ala Phe Ser Gly Gly Arg Asp Thr Ile |     |     |     |     |
|     | 370   |     | 375 |     | 380 |
| Glu | Glu His Arg Gln Phe Gly Gly Asn Cys Asp Val Asp Val Ser Phe |     |     |     |     |
| 385 |   | 390 |     | 395 | 400 |
| Met | Tyr Leu Thr Phe Phe Leu Glu Asp Asp Asp Lys Leu Glu Gln Ile |     |     |     |     |
|     | 405   |     | 410 |     | 415 |
| Arg | Lys Asp Tyr Thr Ser Gly Ala Met Leu Thr Gly Glu Leu Lys Lys |     |     |     |     |
|     | 420   |     | 425 |     | 430 |
| Ala | Leu Ile Glu Val Leu Gln Pro Leu Ile Ala Glu His Gln Ala Arg |     |     |     |     |
|     | 435   |     | 440 |     | 445 |
| Arg | Lys Glu Val Thr Asp Glu Ile Val Lys Glu Phe Met Thr Pro Arg |     |     |     |     |
|     | 450   |     | 455 |     | 460 |
| Lys | Leu Ser Phe Asp Phe Gln                                     |     |     |     |     |
|     | 325   |     | 470 |     |     |

<210> 63  
 <211> 106

<212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Ig kappa chain C regionI  
 <222> (1)..(106)  
 <223> Accession NO: as of 29 August 2003: P01834  
 <400> 63

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp | Glu | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn | Phe | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu | Gln | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Asn | Ser | Gln | Glu | Ser | Val | Thr | Glu | Gln | Asp | Ser | Lys | Asp | Ser | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Tyr | Ser | Leu | Ser | Ser | Thr | Leu | Thr | Leu | Ser | Lys | Ala | Asp | Tyr | Glu | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| His | Lys | Val | Tyr | Ala | Cys | Glu | Val | Thr | His | Gln | Gly | Leu | Ser | Ser | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Val | Thr | Lys | Ser | Phe | Asn | Arg | Gly | Glu | Cys |     |     |     |     |     |     |
|     |     |     |     | 325 |     | 105 |     |     |     |     |     |     |     |     |     |

<210> 64  
 <211> 758  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Mitofilin  
 <222> (1)..(758)  
 <223> Accession NO: as of 29 August 2003: Q16891  
 <400> 64

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Arg | Ala | Cys | Gln | Leu | Ser | Gly | Val | Thr | Ala | Ala | Ala | Gln | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Leu | Cys | Gly | Lys | Phe | Val | Leu | Arg | Pro | Leu | Arg | Pro | Cys | Arg | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Ser | Thr | Ser | Gly | Ser | Ser | Gly | Leu | Thr | Thr | Gly | Lys | Ile | Ala | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Gly | Leu | Leu | Phe | Val | Gly | Gly | Gly | Ile | Gly | Gly | Thr | Ile | Leu | Tyr |



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 50  |     | 55  |     | 60  |
| Ala Lys Trp Asp Ser His Phe Arg Glu Ser Val Glu Lys Thr Ile Pro |     |     |     |     |
| 65  |     | 70  |     | 75  |
| Tyr Ser Asp Lys Leu Phe Glu Met Val Leu Gly Pro Ala Ala Tyr Asn |     |     |     |     |
|   | 85  |     | 90  | 95  |
| Val Pro Leu Pro Lys Lys Ser Ile Gln Ser Gly Pro Leu Lys Ile Ser |     |     |     |     |
|   | 100 |     | 105 | 110 |
| Ser Val Ser Glu Val Met Lys Glu Ser Lys Gln Pro Ala Ser Gln Leu |     |     |     |     |
|   | 115 |     | 120 | 125 |
| Gln Lys Gln Lys Gly Asp Thr Pro Ala Ser Ala Thr Ala Pro Thr Glu |     |     |     |     |
|   | 130 |     | 135 | 140 |
| Ala Ala Gln Ile Ile Ser Ala Ala Gly Asp Thr Leu Ser Val Pro Ala |     |     |     |     |
| 145   |     | 150 |     | 155 |
| Pro Ala Val Gln Pro Glu Glu Ser Leu Lys Thr Asp His Pro Glu Ile |     |     |     |     |
|   | 165 |     | 170 | 175 |
| Gly Glu Gly Lys Pro Thr Pro Ala Leu Ser Glu Glu Ala Ser Ser Ser |     |     |     |     |
|   | 180 |     | 185 | 190 |
| Ser Ile Arg Glu Arg Pro Pro Glu Glu Val Ala Ala Arg Leu Ala Gln |     |     |     |     |
|   | 195 |     | 200 | 205 |
| Gln Glu Lys Gln Glu Gln Val Lys Ile Glu Ser Leu Ala Lys Ser Leu |     |     |     |     |
|   | 210 |     | 215 | 220 |
| Glu Asp Ala Leu Arg Gln Thr Ala Ser Val Thr Leu Gln Ala Ile Ala |     |     |     |     |
| 225   |     | 230 |     | 235 |
| Ala Gln Asn Ala Ala Val Gln Ala Val Asn Ala His Ser Asn Ile Leu |     |     |     |     |
|   | 245 |     | 250 | 255 |
| Lys Ala Ala Met Asp Asn Ser Glu Ile Ala Gly Glu Lys Lys Ser Ala |     |     |     |     |
|   | 260 |     | 265 | 270 |
| Gln Trp Arg Thr Val Glu Gly Ala Leu Lys Glu Arg Arg Lys Ala Val |     |     |     |     |
|   | 275 |     | 280 | 285 |
| Asp Glu Ala Ala Asp Ala Leu Leu Lys Ala Lys Glu Glu Leu Glu Lys |     |     |     |     |
|   | 290 |     | 295 | 300 |
| Met Lys Ser Val Ile Glu Asn Ala Lys Lys Lys Glu Val Ala Gly Ala |     |     |     |     |
| 305   |     | 310 |     | 315 |
| Lys Pro His Ile Thr Ala Ala Glu Gly Lys Leu His Asn Met Ile Val |     |     |     |     |
|   | 325 |     | 330 | 335 |
| Asp Leu Asp Asn Val Val Lys Lys Val Gln Ala Ala Gln Ser Glu Ala |     |     |     |     |
|   | 340 |     | 345 | 350 |
| Lys Val Val Ser Gln Tyr His Glu Leu Val Val Gln Ala Arg Asp Asp |     |     |     |     |
|   | 355 |     | 360 | 365 |
| Phe Lys Arg Glu Leu Asp Ser Ile Thr Pro Glu Val Leu Pro Gly Trp |     |     |     |     |
| 370   |     | 375 |     | 380 |

Lys Gly Met Ser Val Ser Asp Leu Ala Asp Lys Leu Ser Thr Asp Asp  
 385 390 395 400  
 Leu Asn Ser Leu Ile Ala His Ala His Arg Arg Ile Asp Gln Leu Asn  
 405 410 415  
 Arg Glu Leu Ala Glu Gln Lys Ala Thr Glu Lys Gln His Ile Thr Leu  
 420 425 430  
 Ala Leu Glu Lys Gln Lys Leu Glu Glu Lys Arg Ala Phe Asp Ser Ala  
 435 440 445  
 Val Ala Lys Ala Leu Glu His His Arg Ser Glu Ile Gln Ala Glu Gln  
 450 455 460  
 Asp Arg Lys Ile Glu Glu Val Arg Asp Ala Met Glu Asn Glu Met Arg  
 465 470 475 480  
 Thr Gln Leu Arg Arg Gln Ala Ala Ala His Thr Asp His Leu Arg Asp  
 485 490 495  
 Val Leu Arg Val Gln Glu Gln Glu Leu Lys Ser Glu Phe Glu Gln Asn  
 500 505 510  
 Leu Ser Glu Lys Leu Ser Glu Gln Glu Leu Gln Phe Arg Arg Leu Ser  
 515 520 525  
 Gln Glu Gln Val Asp Asn Phe Thr Leu Asp Ile Asn Thr Ala Tyr Ala  
 530 535 540  
 Arg Leu Arg Gly Ile Glu Gln Ala Val Gln Ser His Ala Val Ala Glu  
 545 550 555 560  
 Glu Glu Ala Arg Lys Ala His Gln Leu Trp Leu Ser Val Glu Ala Leu  
 565 570 575  
 Lys Tyr Ser Met Lys Thr Ser Ser Ala Glu Thr Pro Thr Ile Pro Leu  
 580 585 590  
 Gly Ser Ala Val Glu Ala Ile Lys Ala Asn Cys Ser Asp Asn Glu Phe  
 595 600 605  
 Thr Gln Ala Leu Thr Ala Ala Ile Pro Pro Glu Ser Leu Thr Arg Gly  
 610 615 620  
 Val Tyr Ser Glu Glu Thr Leu Arg Ala Arg Phe Tyr Ala Val Gln Lys  
 625 630 635 640  
 Leu Ala Arg Arg Val Ala Met Ile Asp Glu Thr Arg Asn Ser Leu Tyr  
 645 650 655  
 Gln Tyr Phe Leu Ser Tyr Leu Gln Ser Leu Leu Leu Phe Pro Pro Gln  
 660 665 670  
 Gln Leu Lys Pro Pro Pro Glu Leu Cys Pro Glu Asp Ile Asn Thr Phe  
 675 680 685  
 Lys Leu Leu Ser Tyr Ala Ser Tyr Cys Ile Glu His Gly Asp Leu Glu  
 690 695 700  
 Leu Ala Ala Lys Phe Val Asn Gln Leu Lys Gly Glu Ser Arg Arg Val

705                      710                      715                      720  
 Ala Gln Asp Trp Leu Lys Glu Ala Arg Met Thr Leu Glu Thr Lys Gln  
                          725                      730                      735  
 Ile Val Glu Ile Leu Thr Ala Tyr Ala Ser Ala Val Gly Ile Gly Thr  
                          740                      745                      750  
 Thr Gln Val Gln Pro Glu  
                          755

<210> 65  
 <211> 1410  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Ribosome-binding protein 1  
 <222> (1)..(1410)  
 <223> Accession NO: as of 29 August 2003: O75300  
 <400> 65

Met Asp Ile Tyr Asp Thr Gln Thr Leu Gly Val Val Val Phe Gly Gly  
 1                      5                      10                      15  
 Phe Met Val Val Ser Ala Ile Gly Ile Phe Leu Val Ser Thr Phe Ser  
                          20                      25                      30  
 Met Lys Glu Thr Ser Tyr Glu Glu Ala Leu Ala Asn Gln Arg Lys Glu  
                          35                      40                      45  
 Met Ala Lys Thr His His Gln Lys Val Glu Lys Lys Lys Lys Glu Lys  
                          50                      55                      60  
 Thr Val Glu Lys Lys Gly Lys Thr Lys Lys Lys Glu Glu Lys Pro Asn  
 65                      70                      75                      80  
 Gly Lys Ile Pro Asp His Asp Pro Ala Pro Asn Val Thr Val Leu Leu  
                          85                      90                      95  
 Arg Glu Pro Val Arg Ala Pro Ala Val Ala Val Ala Pro Thr Pro Val  
                          100                      105                      110  
 Gln Pro Pro Ile Ile Val Ala Pro Val Ala Thr Val Pro Ala Met Pro  
                          115                      120                      125  
 Gln Glu Lys Leu Ala Ser Ser Pro Lys Asp Lys Lys Lys Lys Glu Lys  
                          130                      135                      140  
 Lys Val Ala Lys Val Glu Pro Ala Val Ser Ser Val Val Asn Ser Ile  
 145                      150                      155                      160  
 Gln Val Leu Thr Ser Lys Ala Ala Ile Leu Glu Thr Ala Pro Lys Glu  
                          165                      170                      175

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Met | Val | Val | Val | Pro | Pro | Val | Gly | Ala | Lys | Gly | Asn | Thr | Pro |
| 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |     |
| Ala | Thr | Gly | Thr | Thr | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Thr | Gln | Asn | Gln |
| 195 |     |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Ser | Lys | Lys | Ala | Glu | Gly | Ala | Pro | Asn | Gln | Gly | Arg | Lys | Ala | Glu | Gly |
| 210 |     |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Thr | Pro | Asn | Gln | Gly | Lys | Lys | Thr | Glu | Gly | Thr | Pro | Asn | Gln | Gly | Lys |
| 225 |     |     | 230 |     |     |     |     |     | 235 |     |     | 240 |     |     |     |
| Lys | Ala | Glu | Gly | Thr | Pro | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Thr | Pro |
| 245 |     |     |     |     |     | 250 |     |     |     |     |     | 255 |     |     |     |
| Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Val |
| 260 |     |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |     |
| Asp | Thr | Thr | Pro | Asn | Gln | Gly | Lys | Lys | Val | Glu | Gly | Ala | Pro | Thr | Gln |
| 275 |     |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Gly | Arg | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Ala | Lys | Lys | Val | Glu | Gly |
| 290 |     |     |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |
| Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys |
| 305 |     |     | 310 |     |     |     |     |     | 315 |     |     | 320 |     |     |     |
| Lys | Gly | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln |
| 325 |     |     |     |     |     | 330 |     |     |     |     |     | 335 |     |     |     |
| Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala |
| 340 |     |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |     |
| Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln |
| 355 |     |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ser | Glu | Gly |
| 370 |     |     |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |
| Ala | Gln | Asn | Gln | Gly | Lys | Lys | Val | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys |
| 385 |     |     | 390 |     |     |     |     |     | 395 |     |     | 400 |     |     |     |
| Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln |
| 405 |     |     |     |     |     | 410 |     |     |     |     |     | 415 |     |     |     |
| Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala |
| 420 |     |     |     |     |     | 425 |     |     |     |     |     | 430 |     |     |     |
| Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln |
| 435 |     |     |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |
| Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly |
| 450 |     |     |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |
| Ala | Gln | Asn | Gln | Gly | Lys | Lys | Val | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys |
| 465 |     |     | 470 |     |     |     |     |     | 475 |     |     | 480 |     |     |     |
| Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln |
| 485 |     |     |     |     |     | 490 |     |     |     |     |     | 495 |     |     |     |
| Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ala | Gln | Asn | Gln | Gly | Gln | Lys | Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |     |     |     |  |
| Glu | Gly | Ala | Gln | Asn | Gln | Gly | Lys | Lys | Thr | Glu | Gly | Ala | Gln | Gly | Lys |  |
| 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |     |     |  |
| Lys | Ala | Glu | Arg | Ser | Pro | Asn | Gln | Gly | Lys | Lys | Gly | Glu | Gly | Ala | Pro |  |
| 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |     |  |
| Ile | Gln | Gly | Lys | Lys | Ala | Asp | Ser | Val | Ala | Asn | Gln | Gly | Thr | Lys | Val |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |
| Glu | Gly | Ile | Thr | Asn | Gln | Gly | Lys | Lys | Ala | Glu | Gly | Ser | Pro | Ser | Glu |  |
| 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |     |     |     |     |  |
| Gly | Lys | Lys | Ala | Glu | Gly | Ser | Pro | Asn | Gln | Gly | Lys | Lys | Ala | Asp | Ala |  |
| 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |     |     |     |  |
| Ala | Ala | Asn | Gln | Gly | Lys | Lys | Thr | Glu | Ser | Ala | Ser | Val | Gln | Gly | Arg |  |
| 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |     |     |  |
| Asn | Thr | Asp | Val | Ala | Gln | Ser | Pro | Glu | Ala | Pro | Lys | Gln | Glu | Ala | Pro |  |
| 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |     |  |
| Ala | Lys | Lys | Lys | Ser | Gly | Ser | Lys | Lys | Lys | Gly | Glu | Pro | Gly | Pro | Pro |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |
| Asp | Ala | Asp | Gly | Pro | Leu | Tyr | Leu | Pro | Tyr | Lys | Thr | Leu | Val | Ser | Thr |  |
| 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |     |     |     |     |  |
| Val | Gly | Ser | Met | Val | Phe | Asn | Glu | Gly | Glu | Ala | Gln | Arg | Leu | Ile | Glu |  |
| 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |     |     |     |  |
| Ile | Leu | Ser | Glu | Lys | Ala | Gly | Ile | Ile | Gln | Asp | Thr | Trp | His | Lys | Ala |  |
| 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |     |     |  |
| Thr | Gln | Lys | Gly | Asp | Pro | Val | Ala | Ile | Leu | Lys | Arg | Gln | Leu | Glu | Glu |  |
| 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |     |  |
| Lys | Glu | Lys | Leu | Leu | Ala | Thr | Glu | Gln | Glu | Asp | Ala | Ala | Val | Ala | Lys |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |
| Ser | Lys | Leu | Arg | Glu | Leu | Asn | Lys | Glu | Met | Ala | Ala | Glu | Lys | Ala | Lys |  |
| 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |     |     |     |     |  |
| Ala | Ala | Ala | Gly | Glu | Ala | Lys | Val | Lys | Lys | Gln | Leu | Val | Ala | Arg | Glu |  |
| 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |     |     |     |  |
| Gln | Glu | Ile | Thr | Ala | Val | Gln | Ala | Arg | Met | Gln | Ala | Ser | Tyr | Arg | Glu |  |
| 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |     |     |  |
| His | Val | Lys | Glu | Val | Gln | Gln | Leu | Gln | Gly | Lys | Ile | Arg | Thr | Leu | Gln |  |
| 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |     |  |
| Glu | Gln | Leu | Glu | Asn | Gly | Pro | Asn | Thr | Gln | Leu | Ala | Arg | Leu | Gln | Gln |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |
| Glu | Asn | Ser | Ile | Leu | Arg | Asp | Ala | Leu | Asn | Gln | Ala | Thr | Ser | Gln | Val |  |
| 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |     |     |     |     |  |
| Glu | Ser | Lys | Gln | Asn | Ala | Glu | Leu | Ala | Lys | Leu | Arg | Gln | Glu | Leu | Ser |  |
| 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |     |     |     |  |

Lys Val Ser Lys Glu Leu Val Glu Lys Ser Glu Ala Val Arg Gln Asp  
           835                          840                          845  
 Glu Gln Gln Arg Lys Ala Leu Glu Ala Lys Ala Ala Ala Phe Glu Lys  
           850                          855                          860  
 Gln Val Leu Gln Leu Gln Ala Ser His Arg Glu Ser Glu Glu Ala Leu  
 865                          870                          875                          880  
 Gln Lys Arg Leu Asp Glu Val Ser Arg Glu Leu Cys His Thr Gln Ser  
                           885                          890                          895  
 Ser His Ala Ser Leu Arg Ala Asp Ala Glu Lys Ala Gln Glu Gln Gln  
                           900                          905                          910  
 Gln Gln Met Ala Glu Leu His Ser Lys Leu Gln Ser Ser Glu Ala Glu  
           915                          920                          925  
 Val Arg Ser Lys Cys Glu Glu Leu Ser Gly Leu His Gly Gln Leu Gln  
           930                          935                          940  
 Glu Ala Arg Ala Glu Asn Ser Gln Leu Thr Glu Arg Ile Arg Ser Ile  
 945                          950                          955                          960  
 Glu Ala Leu Leu Glu Ala Gly Gln Ala Arg Asp Ala Gln Asp Val Gln  
                           965                          970                          975  
 Ala Ser Gln Ala Glu Ala Asp Gln Gln Gln Thr Arg Leu Lys Glu Leu  
           980                          985                          990  
 Glu Ser Gln Val Ser Gly Leu Glu Lys Glu Ala Ile Glu Leu Arg Glu  
           995                          1000                          1005  
 Ala Val Glu Gln Gln Lys Val Lys Asn Asn Asp Leu Arg Glu Lys  
           1010                          1015                          1020  
 Asn Trp Lys Ala Met Glu Ala Leu Ala Thr Ala Glu Gln Ala Cys  
           1025                          1030                          1035  
 Lys Glu Lys Leu Leu Ser Leu Thr Gln Ala Lys Glu Glu Ser Glu  
           1040                          1045                          1050  
 Lys Gln Leu Cys Leu Ile Glu Ala Gln Thr Met Glu Ala Leu Leu  
           1055                          1060                          1065  
 Ala Leu Leu Pro Glu Leu Ser Val Leu Ala Gln Gln Asn Tyr Thr  
           1070                          1075                          1080  
 Glu Trp Leu Gln Asp Leu Lys Glu Lys Gly Pro Thr Leu Leu Lys  
           1085                          1090                          1095  
 His Pro Pro Ala Pro Ala Glu Pro Ser Ser Asp Leu Ala Ser Lys  
           1100                          1105                          1110  
 Leu Arg Glu Ala Glu Glu Thr Gln Ser Thr Leu Gln Ala Glu Cys  
           1115                          1120                          1125  
 Asp Gln Tyr Arg Ser Ile Leu Ala Glu Thr Glu Gly Met Leu Arg  
           1130                          1135                          1140  
 Asp Leu Gln Lys Ser Val Glu Glu Glu Glu Gln Val Trp Arg Ala

|                             |                     |             |
|-----------------------------|---------------------|-------------|
| 1145                        | 1150                | 1155        |
| Lys Val Gly Ala Ala Glu Glu | Glu Leu Gln Lys Ser | Arg Val Thr |
| 1160                        | 1165                | 1170        |
| Val Lys His Leu Glu Glu Ile | Val Glu Lys Leu Lys | Gly Glu Leu |
| 1175                        | 1180                | 1185        |
| Glu Ser Ser Asp Gln Val Arg | Glu His Thr Ser His | Leu Glu Ala |
| 1190                        | 1195                | 1200        |
| Glu Leu Glu Lys His Met Ala | Ala Ala Ser Ala Glu | Cys Gln Asn |
| 1205                        | 1210                | 1215        |
| Tyr Ala Lys Glu Val Ala Gly | Leu Arg Gln Leu Leu | Leu Glu Ser |
| 1220                        | 1225                | 1230        |
| Gln Ser Gln Leu Asp Ala Ala | Lys Ser Glu Ala Gln | Lys Gln Ser |
| 1235                        | 1240                | 1245        |
| Asp Glu Leu Ala Leu Val Arg | Gln Gln Leu Ser Glu | Met Lys Ser |
| 1250                        | 1255                | 1260        |
| His Val Glu Asp Gly Asp Ile | Ala Gly Ala Pro Ala | Ser Ser Pro |
| 1265                        | 1270                | 1275        |
| Glu Ala Pro Pro Ala Glu Gln | Asp Pro Val Gln Leu | Lys Thr Gln |
| 1280                        | 1285                | 1290        |
| Leu Glu Trp Thr Glu Ala Ile | Leu Glu Asp Glu Gln | Thr Gln Arg |
| 1295                        | 1300                | 1305        |
| Gln Lys Leu Thr Ala Glu Phe | Glu Glu Ala Gln Thr | Ser Ala Cys |
| 1310                        | 1315                | 1320        |
| Arg Leu Gln Glu Glu Leu Glu | Lys Leu Arg Thr Ala | Gly Pro Leu |
| 1325                        | 1330                | 1335        |
| Glu Ser Ser Glu Thr Glu Glu | Ala Ser Gln Leu Lys | Glu Arg Leu |
| 1340                        | 1345                | 1350        |
| Glu Lys Glu Lys Lys Leu Thr | Ser Asp Leu Gly Arg | Ala Ala Thr |
| 1355                        | 1360                | 1365        |
| Arg Leu Gln Glu Leu Leu Lys | Thr Thr Gln Glu Gln | Leu Ala Arg |
| 1370                        | 1375                | 1380        |
| Glu Lys Asp Thr Val Lys Lys | Leu Gln Glu Gln Leu | Glu Lys Ala |
| 1385                        | 1390                | 1395        |
| Glu Asp Gly Ser Ser Ser Lys | Glu Gly Thr Ser Val |             |
| 1400                        | 1405                | 1410        |

<210> 66

<211> 453

<212> PRT

<213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Trp | Ser | Leu | His | Pro | Arg | Asn | Leu | Ile | Leu | Tyr | Phe | Tyr | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |
| Leu | Leu | Phe | Leu | Ser | Ser | Thr | Cys | Val | Ala | Tyr | Val | Ala | Thr | Arg | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Cys | Cys | Ile | Leu | Asp | Glu | Arg | Phe | Gly | Ser | Tyr | Cys | Pro | Thr | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Gly | Ile | Ala | Asp | Phe | Leu | Ser | Thr | Tyr | Gln | Thr | Lys | Val | Asp | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Leu | Gln | Ser | Leu | Glu | Asp | Ile | Leu | His | Gln | Val | Glu | Asn | Lys | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Glu | Val | Lys | Gln | Leu | Ile | Lys | Ala | Ile | Gln | Leu | Thr | Tyr | Asn | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Glu | Ser | Ser | Lys | Pro | Asn | Met | Ile | Asp | Ala | Ala | Thr | Leu | Lys | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Lys | Met | Leu | Glu | Glu | Ile | Met | Lys | Tyr | Glu | Ala | Ser | Ile | Leu | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| His | Asp | Ser | Ser | Ile | Arg | Tyr | Leu | Gln | Glu | Ile | Tyr | Asn | Ser | Asn | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Lys | Ile | Val | Asn | Leu | Lys | Glu | Lys | Val | Ala | Gln | Leu | Glu | Ala | Gln |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Cys | Gln | Glu | Pro | Cys | Lys | Asp | Thr | Val | Gln | Ile | His | Asp | Ile | Thr | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Asp | Cys | Gln | Asp | Ile | Ala | Asn | Lys | Gly | Ala | Lys | Gln | Ser | Gly | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Tyr | Phe | Ile | Lys | Pro | Leu | Lys | Ala | Asn | Gln | Gln | Phe | Leu | Val | Tyr | Cys |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Ile | Asp | Gly | Ser | Gly | Asn | Gly | Trp | Thr | Val | Phe | Gln | Lys | Arg | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Gly | Ser | Val | Asp | Phe | Lys | Lys | Asn | Trp | Ile | Gln | Tyr | Lys | Glu | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Phe | Gly | His | Leu | Ser | Pro | Thr | Gly | Thr | Thr | Glu | Phe | Trp | Leu | Gly | Asn |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Glu | Lys | Ile | His | Leu | Ile | Ser | Thr | Gln | Ser | Ala | Ile | Pro | Tyr | Ala | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Arg | Val | Glu | Leu | Glu | Asp | Trp | Asn | Gly | Arg | Thr | Ser | Thr | Ala | Asp | Tyr |



|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| Ala Met Phe Lys Val Gly Pro Glu Ala Asp Lys Tyr Arg Leu Thr Tyr |     |     |
| 290   | 295 | 300 |
| Ala Tyr Phe Ala Gly Gly Asp Ala Gly Asp Ala Phe Asp Gly Phe Asp |     |     |
| 305   | 310 | 315 |
| Phe Gly Asp Asp Pro Ser Asp Lys Phe Phe Thr Ser His Asn Gly Met |     |     |
| 325   | 330 | 335 |
| Gln Phe Ser Thr Trp Asp Asn Asp Asn Asp Lys Phe Glu Gly Asn Cys |     |     |
| 340   | 345 | 350 |
| Ala Glu Gln Asp Gly Ser Gly Trp Trp Met Asn Lys Cys His Ala Gly |     |     |
| 355   | 360 | 365 |
| His Leu Asn Gly Val Tyr Tyr Gln Gly Gly Thr Tyr Ser Lys Ala Ser |     |     |
| 370   | 375 | 380 |
| Thr Pro Asn Gly Tyr Asp Asn Gly Ile Ile Trp Ala Thr Trp Lys Thr |     |     |
| 385   | 390 | 395 |
| Arg Trp Tyr Ser Met Lys Lys Thr Thr Met Lys Ile Ile Pro Phe Asn |     |     |
| 405   | 410 | 415 |
| Arg Leu Thr Ile Gly Glu Gly Gln Gln His His Leu Gly Gly Ala Lys |     |     |
| 420   | 425 | 430 |
| Gln Val Arg Pro Glu His Pro Ala Glu Thr Glu Tyr Asp Ser Leu Tyr |     |     |
| 435   | 440 | 445 |
| Pro Glu Asp Asp Leu   |     |     |
| 450   |     |     |

<210> 67  
 <211> 622  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Prothrombin recursor  
 <222> (1)..(622)  
 <223> Accession NO: as of 29 August 2003: P00734  
 <400> 67

|   |
|---|
| Met Ala His Val Arg Gly Leu Gln Leu Pro Gly Cys Leu Ala Leu Ala |
| 1 5 10 15   |
| Ala Leu Cys Ser Leu Val His Ser Gln His Val Phe Leu Ala Pro Gln |
| 20 25 30  |
| Gln Ala Arg Ser Leu Leu Gln Arg Val Arg Arg Ala Asn Thr Phe Leu |
| 35 40 45  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Glu | Val | Arg | Lys | Gly | Asn | Leu | Glu | Arg | Glu | Cys | Val | Glu | Glu | Thr | 50  | 55  | 60  |     |
| Cys | Ser | Tyr | Glu | Glu | Ala | Phe | Glu | Ala | Leu | Glu | Ser | Ser | Thr | Ala | Thr | 65  | 70  | 75  | 80  |
| Asp | Val | Phe | Trp | Ala | Lys | Tyr | Thr | Ala | Cys | Glu | Thr | Ala | Arg | Thr | Pro | 85  | 90  | 95  |     |
| Arg | Asp | Lys | Leu | Ala | Ala | Cys | Leu | Glu | Gly | Asn | Cys | Ala | Glu | Gly | Leu | 100 | 105 | 110 |     |
| Gly | Thr | Asn | Tyr | Arg | Gly | His | Val | Asn | Ile | Thr | Arg | Ser | Gly | Ile | Glu | 115 | 120 | 125 |     |
| Cys | Gln | Leu | Trp | Arg | Ser | Arg | Tyr | Pro | His | Lys | Pro | Glu | Ile | Asn | Ser | 130 | 135 | 140 |     |
| Thr | Thr | His | Pro | Gly | Ala | Asp | Leu | Gln | Glu | Asn | Phe | Cys | Arg | Asn | Pro | 145 | 150 | 155 | 160 |
| Asp | Ser | Ser | Thr | Thr | Gly | Pro | Trp | Cys | Tyr | Thr | Thr | Asp | Pro | Thr | Val | 165 | 170 | 175 |     |
| Arg | Arg | Gln | Glu | Cys | Ser | Ile | Pro | Val | Cys | Gly | Gln | Asp | Gln | Val | Thr | 180 | 185 | 190 |     |
| Val | Ala | Met | Thr | Pro | Arg | Ser | Glu | Gly | Ser | Ser | Val | Asn | Leu | Ser | Pro | 195 | 200 | 205 |     |
| Pro | Leu | Glu | Gln | Cys | Val | Pro | Asp | Arg | Gly | Gln | Gln | Tyr | Gln | Gly | Arg | 210 | 215 | 220 |     |
| Leu | Ala | Val | Thr | Thr | His | Gly | Leu | Pro | Cys | Leu | Ala | Trp | Ala | Ser | Ala | 225 | 230 | 235 | 240 |
| Gln | Ala | Lys | Ala | Leu | Ser | Lys | His | Gln | Asp | Phe | Asn | Ser | Ala | Val | Gln | 245 | 250 | 255 |     |
| Leu | Val | Glu | Asn | Phe | Cys | Arg | Asn | Pro | Asp | Gly | Asp | Glu | Glu | Gly | Val | 260 | 265 | 270 |     |
| Trp | Cys | Tyr | Val | Ala | Gly | Lys | Pro | Gly | Asp | Phe | Gly | Tyr | Cys | Asp | Leu | 275 | 280 | 285 |     |
| Asn | Tyr | Cys | Glu | Glu | Ala | Val | Glu | Glu | Glu | Thr | Gly | Asp | Gly | Leu | Asp | 290 | 295 | 300 |     |
| Glu | Asp | Ser | Asp | Arg | Ala | Ile | Glu | Gly | Arg | Thr | Ala | Thr | Ser | Glu | Tyr | 305 | 310 | 315 | 320 |
| Gln | Thr | Phe | Phe | Asn | Pro | Arg | Thr | Phe | Gly | Ser | Gly | Glu | Ala | Asp | Cys | 325 | 330 | 335 |     |
| Gly | Leu | Arg | Pro | Leu | Phe | Glu | Lys | Lys | Ser | Leu | Glu | Asp | Lys | Thr | Glu | 340 | 345 | 350 |     |
| Arg | Glu | Leu | Leu | Glu | Ser | Tyr | Ile | Asp | Gly | Arg | Ile | Val | Glu | Gly | Ser | 355 | 360 | 365 |     |
| Asp | Ala | Glu | Ile | Gly | Met | Ser | Pro | Trp | Gln | Val | Met | Leu | Phe | Arg | Lys |     |     |     |     |

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 370   |     | 375 |     | 380 |
| Ser Pro Gln Glu Leu Leu Cys Gly Ala Ser Leu Ile Ser Asp Arg Trp |     |     |     |     |
| 385   |     | 390 |     | 395 |
| Val Leu Thr Ala Ala His Cys Leu Leu Tyr Pro Pro Trp Asp Lys Asn |     |     |     | 400 |
|   | 405 |     | 410 | 415 |
| Phe Thr Glu Asn Asp Leu Leu Val Arg Ile Gly Lys His Ser Arg Thr |     |     |     |     |
|   | 420 |     | 425 | 430 |
| Arg Tyr Glu Arg Asn Ile Glu Lys Ile Ser Met Leu Glu Lys Ile Tyr |     |     |     |     |
|   | 435 |     | 440 | 445 |
| Ile His Pro Arg Tyr Asn Trp Arg Glu Asn Leu Asp Arg Asp Ile Ala |     |     |     |     |
|   | 450 |     | 455 | 460 |
| Leu Met Lys Leu Lys Lys Pro Val Ala Phe Ser Asp Tyr Ile His Pro |     |     |     |     |
| 465   |     | 470 |     | 475 |
| Val Cys Leu Pro Asp Arg Glu Thr Ala Ala Ser Leu Leu Gln Ala Gly |     |     |     |     |
|   | 485 |     | 490 | 495 |
| Tyr Lys Gly Arg Val Thr Gly Trp Gly Asn Leu Lys Glu Thr Trp Thr |     |     |     |     |
|   | 500 |     | 505 | 510 |
| Ala Asn Val Gly Lys Gly Gln Pro Ser Val Leu Gln Val Val Asn Leu |     |     |     |     |
|   | 515 |     | 520 | 525 |
| Pro Ile Val Glu Arg Pro Val Cys Lys Asp Ser Thr Arg Ile Arg Ile |     |     |     |     |
|   | 530 |     | 535 | 540 |
| Thr Asp Asn Met Phe Cys Ala Gly Tyr Lys Pro Asp Glu Gly Lys Arg |     |     |     |     |
| 545   |     | 550 |     | 555 |
| Gly Asp Ala Cys Glu Gly Asp Ser Gly Gly Pro Phe Val Met Lys Ser |     |     |     |     |
|   | 565 |     | 570 | 575 |
| Pro Phe Asn Asn Arg Trp Tyr Gln Met Gly Ile Val Ser Trp Gly Glu |     |     |     |     |
|   | 580 |     | 585 | 590 |
| Gly Cys Asp Arg Asp Gly Lys Tyr Gly Phe Tyr Thr His Val Phe Arg |     |     |     |     |
|   | 595 |     | 600 | 605 |
| Leu Lys Lys Trp Ile Gln Lys Val Ile Asp Gln Phe Gly Glu         |     |     |     |     |
| 610   |     | 615 |     | 620 |

<210> 68  
 <211> 530  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Pyruvate kinase  
 <222> (1)..(530)  
 <223> Accession NO: as of 29 August 2003: P14618

<400> 68

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Lys | Pro | His | Ser | Glu | Ala | Gly | Thr | Ala | Phe | Ile | Gln | Thr | Gln | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | His | Ala | Ala | Met | Ala | Asp | Thr | Phe | Leu | Glu | His | Met | Cys | Arg | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ile | Asp | Ser | Pro | Pro | Ile | Thr | Ala | Arg | Asn | Thr | Gly | Ile | Ile | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Ile | Gly | Pro | Ala | Ser | Arg | Ser | Val | Glu | Thr | Leu | Lys | Glu | Met | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Ser | Gly | Met | Asn | Val | Ala | Arg | Leu | Asn | Phe | Ser | His | Gly | Thr | His |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Tyr | His | Ala | Glu | Thr | Ile | Lys | Asn | Val | Arg | Thr | Ala | Thr | Glu | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Phe | Ala | Ser | Asp | Pro | Ile | Leu | Tyr | Arg | Pro | Val | Ala | Val | Ala | Leu | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Lys | Gly | Pro | Glu | Ile | Arg | Thr | Gly | Leu | Ile | Lys | Gly | Ser | Gly | Thr |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ala | Glu | Val | Glu | Leu | Lys | Lys | Gly | Ala | Thr | Leu | Lys | Ile | Thr | Leu | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Ala | Tyr | Met | Glu | Lys | Cys | Asp | Glu | Asn | Ile | Leu | Trp | Leu | Asp | Tyr |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Lys | Asn | Ile | Cys | Lys | Val | Val | Glu | Val | Gly | Ser | Lys | Ile | Tyr | Val | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Asp | Gly | Leu | Ile | Ser | Leu | Gln | Val | Lys | Gln | Lys | Gly | Ala | Asp | Phe | Leu |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Val | Thr | Glu | Val | Glu | Asn | Gly | Gly | Ser | Leu | Gly | Ser | Lys | Lys | Gly | Val |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Asn | Leu | Pro | Gly | Ala | Ala | Val | Asp | Leu | Pro | Ala | Val | Ser | Glu | Lys | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ile | Gln | Asp | Leu | Lys | Phe | Gly | Val | Glu | Gln | Asp | Val | Asp | Met | Val | Phe |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Ala | Ser | Phe | Ile | Arg | Lys | Ala | Ser | Asp | Val | His | Glu | Val | Arg | Lys | Val |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Leu | Gly | Glu | Lys | Gly | Lys | Asn | Ile | Lys | Ile | Ile | Ser | Lys | Ile | Glu | Asn |
|     |     | 260 |     |     |     | 265 |     |     |     |     |     | 270 |     |     |     |
| His | Glu | Gly | Val | Arg | Arg | Phe | Asp | Glu | Ile | Leu | Glu | Ala | Ser | Asp | Gly |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Ile | Met | Val | Ala | Arg | Gly | Asp | Leu | Gly | Ile | Glu | Ile | Pro | Ala | Glu | Lys |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
| Val | Phe | Leu | Ala | Gln | Lys | Met | Met | Ile | Gly | Arg | Cys | Asn | Arg | Ala | Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 |     | 310 |     | 315 |     | 320 |     |     |     |     |     |     |     |     |     |
| Lys | Pro | Val | Ile | Cys | Ala | Thr | Gln | Met | Leu | Glu | Ser | Met | Ile | Lys | Lys |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Pro | Arg | Pro | Thr | Arg | Ala | Glu | Gly | Ser | Asp | Val | Ala | Asn | Ala | Val | Leu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Asp | Gly | Ala | Asp | Cys | Ile | Met | Leu | Ser | Gly | Glu | Thr | Ala | Lys | Gly | Asp |
|     |     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |
| Tyr | Pro | Leu | Glu | Ala | Val | Arg | Met | Gln | His | Leu | Ile | Ala | Arg | Glu | Ala |
|     |     | 370 |     |     |     |     |     | 375 |     |     |     | 380 |     |     |     |
| Glu | Ala | Ala | Ile | Tyr | His | Leu | Gln | Leu | Phe | Glu | Glu | Leu | Arg | Arg | Leu |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| Ala | Pro | Ile | Thr | Ser | Asp | Pro | Thr | Glu | Ala | Thr | Ala | Val | Gly | Ala | Val |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |
| Glu | Ala | Ser | Phe | Lys | Cys | Cys | Ser | Gly | Ala | Ile | Ile | Val | Leu | Thr | Lys |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Ser | Gly | Arg | Ser | Ala | His | Gln | Val | Ala | Arg | Tyr | Arg | Pro | Arg | Ala | Pro |
|     |     | 435 |     |     |     |     |     | 440 |     |     |     | 445 |     |     |     |
| Ile | Ile | Ala | Val | Thr | Arg | Asn | Pro | Gln | Thr | Ala | Arg | Gln | Ala | His | Leu |
|     |     | 450 |     |     |     |     |     | 455 |     |     |     | 460 |     |     |     |
| Tyr | Arg | Gly | Ile | Phe | Pro | Val | Leu | Cys | Lys | Asp | Pro | Val | Gln | Glu | Ala |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     | 480 |     |
| Trp | Ala | Glu | Asp | Val | Asp | Leu | Arg | Val | Asn | Phe | Ala | Met | Asn | Val | Gly |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |
| Lys | Ala | Arg | Gly | Phe | Phe | Lys | Lys | Gly | Asp | Val | Val | Ile | Val | Leu | Thr |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     | 510 |     |     |     |
| Gly | Trp | Arg | Pro | Gly | Ser | Gly | Phe | Thr | Asn | Thr | Met | Arg | Val | Val | Pro |
|     |     | 515 |     |     |     |     |     | 520 |     |     |     | 525 |     |     |     |
| Val | Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 530 |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 69  
 <211> 328  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Reticulocalbin 3 precursor  
 <222> (1)..(328)  
 <223> Accession NO: as of 29 August 2003: Q96D15  
 <400> 69

Met Met Trp Arg Pro Ser Val Leu Leu Leu Leu Leu Leu Leu Arg His  
 1 5 10 15  
 Gly Ala Gln Gly Lys Pro Ser Pro Asp Ala Gly Pro His Gly Gln Gly  
 20 25 30  
 Arg Val His Gln Ala Ala Pro Leu Ser Asp Ala Pro His Asp Asp Ala  
 35 40 45  
 His Gly Asn Phe Gln Tyr Asp His Glu Ala Phe Leu Gly Arg Glu Val  
 50 55 60  
 Ala Lys Glu Phe Asp Gln Leu Thr Pro Glu Glu Ser Gln Ala Arg Leu  
 65 70 75 80  
 Gly Arg Ile Val Asp Arg Met Asp Arg Ala Gly Asp Gly Asp Gly Trp  
 85 90 95  
 Val Ser Leu Ala Glu Leu Arg Ala Trp Ile Ala His Thr Gln Gln Arg  
 100 105 110  
 His Ile Arg Asp Ser Val Ser Ala Ala Trp Asp Thr Tyr Asp Thr Asp  
 115 120 125  
 Arg Asp Gly Arg Val Gly Trp Glu Glu Leu Arg Asn Ala Thr Tyr Gly  
 130 135 140  
 His Tyr Ala Pro Gly Glu Glu Phe His Asp Val Glu Asp Ala Glu Thr  
 145 150 155 160  
 Tyr Lys Lys Met Leu Ala Arg Asp Glu Arg Arg Phe Arg Val Ala Asp  
 165 170 175  
 Gln Asp Gly Asp Ser Met Ala Thr Arg Glu Glu Leu Thr Ala Phe Leu  
 180 185 190  
 His Pro Glu Glu Phe Pro His Met Arg Asp Ile Val Ile Ala Glu Thr  
 195 200 205  
 Leu Glu Asp Leu Asp Arg Asn Lys Asp Gly Tyr Val Gln Val Glu Glu  
 210 215 220  
 Tyr Ile Ala Asp Leu Tyr Ser Ala Glu Pro Gly Glu Glu Glu Pro Ala  
 225 230 235 240  
 Trp Val Gln Thr Glu Arg Gln Gln Phe Arg Asp Phe Arg Asp Leu Asn  
 245 250 255  
 Lys Asp Gly His Leu Asp Gly Ser Glu Val Gly His Trp Val Leu Pro  
 260 265 270  
 Pro Ala Gln Asp Gln Pro Leu Val Glu Ala Asn His Leu Leu His Glu  
 275 280 285  
 Ser Asp Thr Asp Lys Asp Gly Arg Leu Ser Lys Ala Glu Ile Leu Gly  
 290 295 300  
 Asn Trp Asn Met Phe Val Gly Ser Gln Ala Thr Asn Tyr Gly Glu Asp  
 305 310 315 320  
 Leu Thr Arg His His Asp Glu Leu

<210> 70  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Desmin  
 <222> (1)..(469)  
 <223> Accession NO: as of 29 August 2003: P17661  
 <400> 70

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Gln | Ala | Tyr | Ser | Ser | Ser | Gln | Arg | Val | Ser | Ser | Tyr | Arg | Arg | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Gly | Gly | Ala | Pro | Gly | Phe | Pro | Leu | Gly | Ser | Pro | Leu | Ser | Ser | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Phe | Pro | Arg | Ala | Gly | Phe | Gly | Ser | Lys | Gly | Ser | Ser | Ser | Ser | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Ser | Arg | Val | Tyr | Gln | Val | Ser | Arg | Thr | Ser | Gly | Gly | Ala | Gly | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Gly | Ser | Leu | Arg | Ala | Ser | Arg | Leu | Gly | Thr | Thr | Arg | Thr | Pro | Ser |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Tyr | Gly | Ala | Gly | Glu | Leu | Leu | Asp | Phe | Ser | Leu | Ala | Asp | Ala | Val |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asn | Gln | Glu | Phe | Leu | Thr | Thr | Arg | Thr | Asn | Glu | Lys | Val | Glu | Leu | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Leu | Asn | Asp | Arg | Phe | Ala | Asn | Tyr | Ile | Glu | Lys | Val | Arg | Phe | Leu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Gln | Gln | Asn | Ala | Ala | Leu | Ala | Ala | Glu | Val | Asn | Arg | Leu | Lys | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Glu | Pro | Thr | Arg | Val | Ala | Glu | Leu | Tyr | Glu | Glu | Glu | Leu | Arg | Glu |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Leu | Arg | Arg | Gln | Val | Glu | Val | Leu | Thr | Asn | Gln | Arg | Ala | Arg | Val | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Val | Glu | Arg | Asp | Asn | Leu | Leu | Asp | Asp | Leu | Gln | Arg | Leu | Lys | Ala | Lys |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Leu | Gln | Glu | Glu | Ile | Gln | Leu | Lys | Glu | Glu | Ala | Glu | Asn | Asn | Leu | Ala |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Ala | Phe | Arg | Ala | Asp | Val | Asp | Ala | Ala | Thr | Leu | Ala | Arg | Ile | Asp | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |

Glu Arg Arg Ile Glu Ser Leu Asn Glu Glu Ile Ala Phe Leu Lys Lys  
 225 230 235 240  
 Val His Glu Glu Glu Ile Arg Glu Leu Gln Ala Gln Leu Gln Glu Gln  
 245 250 255  
 Gln Val Gln Val Glu Met Asp Met Ser Lys Pro Asp Leu Thr Ala Ala  
 260 265 270  
 Leu Arg Asp Ile Arg Ala Gln Tyr Glu Thr Ile Ala Ala Lys Asn Ile  
 275 280 285  
 Ser Glu Ala Glu Glu Trp Tyr Lys Ser Lys Val Ser Asp Leu Thr Gln  
 290 295 300  
 Ala Ala Asn Lys Asn Asn Asp Ala Leu Arg Gln Ala Lys Gln Glu Met  
 305 310 315 320  
 Met Glu Tyr Arg His Gln Ile Gln Ser Tyr Thr Cys Glu Ile Asp Ala  
 325 330 335  
 Leu Lys Gly Thr Asn Asp Ser Leu Met Arg Gln Met Arg Glu Leu Glu  
 340 345 350  
 Asp Arg Phe Ala Ser Glu Ala Ser Gly Tyr Gln Asp Asn Ile Ala Arg  
 355 360 365  
 Leu Glu Glu Glu Ile Arg His Leu Lys Asp Glu Met Ala Arg His Leu  
 370 375 380  
 Arg Glu Tyr Gln Asp Leu Leu Asn Val Lys Met Ala Leu Asp Val Glu  
 385 390 395 400  
 Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Ser Arg Ile Asn  
 405 410 415  
 Leu Pro Ile Gln Thr Tyr Ser Ala Leu Asn Phe Arg Glu Thr Ser Pro  
 420 425 430  
 Glu Gln Arg Gly Ser Glu Val His Thr Lys Lys Thr Val Met Ile Lys  
 435 440 445  
 Thr Ile Glu Thr Arg Asp Gly Glu Val Val Ser Glu Ala Thr Gln Gln  
 450 455 460  
 Gln His Glu Val Leu  
 465

<210> 71  
 <211> 417  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Carboxypeptidase B precursor  
 <222> (1)..(417)



<223> Accession NO: as of 29 August 2003: P15086

<400> 71

Met Leu Ala Leu Leu Val Leu Val Thr Val Ala Leu Ala Ser Ala His  
1 5 10 15  
His Gly Gly Glu His Phe Glu Gly Glu Lys Val Phe Arg Val Asn Val  
20 25 30  
Glu Asp Glu Asn His Ile Asn Ile Ile Arg Glu Leu Ala Ser Thr Thr  
35 40 45  
Gln Ile Asp Phe Trp Lys Pro Asp Ser Val Thr Gln Ile Lys Pro His  
50 55 60  
Ser Thr Val Asp Phe Arg Val Lys Ala Glu Asp Thr Val Thr Val Glu  
65 70 75 80  
Asn Val Leu Lys Gln Asn Glu Leu Gln Tyr Lys Val Leu Ile Ser Asn  
85 90 95  
Leu Arg Asn Val Val Glu Ala Gln Phe Asp Ser Arg Val Arg Ala Thr  
100 105 110  
Gly His Ser Tyr Glu Lys Tyr Asn Lys Trp Glu Thr Ile Glu Ala Trp  
115 120 125  
Thr Gln Gln Val Ala Thr Glu Asn Pro Ala Leu Ile Ser Arg Ser Val  
130 135 140  
Ile Gly Thr Thr Phe Glu Gly Arg Ala Ile Tyr Leu Leu Lys Val Gly  
145 150 155 160  
Lys Ala Gly Gln Asn Lys Pro Ala Ile Phe Met Asp Cys Gly Phe His  
165 170 175  
Ala Arg Glu Trp Ile Ser Pro Ala Phe Cys Gln Trp Phe Val Arg Glu  
180 185 190  
Ala Val Arg Thr Tyr Gly Arg Glu Ile Gln Val Thr Glu Leu Leu Asp  
195 200 205  
Lys Leu Asp Phe Tyr Val Leu Pro Val Leu Asn Ile Asp Gly Tyr Ile  
210 215 220  
Tyr Thr Trp Thr Lys Ser Arg Phe Trp Arg Lys Thr Arg Ser Thr His  
225 230 235 240  
Thr Gly Ser Ser Cys Ile Gly Thr Asp Pro Asn Arg Asn Phe Asp Ala  
245 250 255  
Gly Trp Cys Glu Ile Gly Ala Ser Arg Asn Pro Cys Asp Glu Thr Tyr  
260 265 270  
Cys Gly Pro Ala Ala Glu Ser Glu Lys Glu Thr Lys Ala Leu Ala Asp  
275 280 285  
Phe Ile Arg Asn Lys Leu Ser Ser Ile Lys Ala Tyr Leu Thr Ile His  
290 295 300

Ser Tyr Ser Gln Met Met Ile Tyr Pro Tyr Ser Tyr Ala Tyr Lys Leu  
 305 310 315 320  
 Gly Glu Asn Asn Ala Glu Leu Asn Ala Leu Ala Lys Ala Thr Val Lys  
 325 330 335  
 Glu Leu Ala Ser Leu His Gly Thr Lys Tyr Thr Tyr Gly Pro Gly Ala  
 340 345 350  
 Thr Thr Ile Tyr Pro Ala Ala Gly Gly Ser Asp Asp Trp Ala Tyr Asp  
 355 360 365  
 Gln Gly Ile Arg Tyr Ser Phe Thr Phe Glu Leu Arg Asp Thr Gly Arg  
 370 375 380  
 Tyr Gly Phe Leu Leu Pro Glu Ser Gln Ile Arg Ala Thr Cys Glu Glu  
 385 390 395 400  
 Thr Phe Leu Ala Ile Lys Tyr Val Ala Ser Tyr Val Leu Glu His Leu  
 405 410 415  
 Tyr

<210> 72  
 <211> 419  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Carboxypeptidase A1 precursor  
 <222> (1)..(419)  
 <223> Accession NO: as of 29 August 2003: P15085  
 <400> 72

Met Arg Gly Leu Leu Val Leu Ser Val Leu Leu Gly Ala Val Phe Gly  
 1 5 10 15  
 Lys Glu Asp Phe Val Gly His Gln Val Leu Arg Ile Ser Val Ala Asp  
 20 25 30  
 Glu Ala Gln Val Gln Lys Val Lys Glu Leu Glu Asp Leu Glu His Leu  
 35 40 45  
 Gln Leu Asp Phe Trp Arg Gly Pro Ala His Pro Gly Ser Pro Ile Asp  
 50 55 60  
 Val Arg Val Pro Phe Pro Ser Ile Gln Ala Val Lys Ile Phe Leu Glu  
 65 70 75 80  
 Ser His Gly Ile Ser Tyr Glu Thr Met Ile Glu Asp Val Gln Ser Leu  
 85 90 95  
 Leu Asp Glu Glu Gln Glu Gln Met Phe Ala Phe Arg Ser Arg Ala Arg



<210> 73  
 <211> 418  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Colligin 2  
 <222> (1)..(418)  
 <223> Accession NO: as of 29 August 2003: P50454  
 <400> 73

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Met Arg Ser Leu Leu Leu Leu Ser Ala Phe Cys Leu Leu Glu Ala Ala
1              5              10              15
Leu Ala Ala Glu Val Lys Lys Pro Ala Ala Ala Ala Pro Gly Thr
              20              25              30
Ala Glu Lys Leu Ser Pro Lys Ala Ala Thr Leu Ala Glu Arg Ser Ala
              35              40              45
Gly Leu Ala Phe Ser Leu Tyr Gln Ala Met Ala Lys Asp Gln Ala Val
              50              55              60
Glu Asn Ile Leu Val Ser Pro Val Val Val Ala Ser Ser Leu Gly Leu
65              70              75              80
Val Ser Leu Gly Gly Lys Ala Thr Thr Ala Ser Gln Ala Lys Ala Val
              85              90              95
Leu Ser Ala Glu Gln Leu Arg Asp Glu Glu Val His Ala Gly Leu Gly
              100             105             110
Glu Leu Leu Arg Ser Leu Ser Asn Ser Thr Ala Arg Asn Val Thr Trp
              115             120             125
Lys Leu Gly Ser Arg Leu Tyr Gly Pro Ser Ser Val Ser Phe Ala Asp
              130             135             140
Asp Phe Val Arg Ser Ser Lys Gln His Tyr Asn Cys Glu His Ser Lys
145             150             155             160
Ile Asn Phe Arg Asp Lys Arg Ser Ala Leu Gln Ser Ile Asn Glu Trp
              165             170             175
Ala Ala Gln Thr Thr Asp Gly Lys Leu Pro Glu Val Thr Lys Asp Val
              180             185             190
Glu Arg Thr Asp Gly Ala Leu Leu Val Asn Ala Met Phe Phe Lys Pro
              195             200             205
His Trp Asp Glu Lys Phe His His Lys Met Val Asp Asn Arg Gly Phe
              210             215             220
Met Val Thr Arg Ser Tyr Thr Val Gly Val Met Met Met His Arg Thr
  
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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 |     | 230 |     | 235 |     | 240 |     |     |     |     |     |     |     |     |     |
| Gly | Leu | Tyr | Asn | Tyr | Tyr | Asp | Asp | Glu | Lys | Glu | Lys | Leu | Gln | Ile | Val |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Glu | Met | Pro | Leu | Ala | His | Lys | Leu | Ser | Ser | Leu | Ile | Ile | Leu | Met | Pro |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| His | His | Val | Glu | Pro | Leu | Glu | Arg | Leu | Glu | Lys | Leu | Leu | Thr | Lys | Glu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gln | Leu | Lys | Ile | Trp | Met | Gly | Lys | Met | Gln | Lys | Lys | Ala | Val | Ala | Ile |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |
| Ser | Leu | Pro | Lys | Gly | Val | Val | Glu | Val | Thr | His | Asp | Leu | Gln | Lys | His |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Leu | Ala | Gly | Leu | Gly | Leu | Thr | Glu | Ala | Ile | Asp | Lys | Asn | Lys | Ala | Asp |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     | 335 |     |     |
| Leu | Ser | Arg | Met | Ser | Gly | Lys | Lys | Asp | Leu | Tyr | Leu | Ala | Ser | Val | Phe |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| His | Ala | Thr | Ala | Phe | Glu | Leu | Asp | Thr | Asp | Gly | Asn | Pro | Phe | Asp | Gln |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Asp | Ile | Tyr | Gly | Arg | Glu | Glu | Leu | Arg | Ser | Pro | Lys | Leu | Phe | Tyr | Ala |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Asp | His | Pro | Phe | Ile | Phe | Leu | Val | Arg | Asp | Thr | Gln | Ser | Gly | Ser | Leu |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |     |
| Leu | Phe | Ile | Gly | Arg | Leu | Val | Arg | Pro | Lys | Gly | Asp | Lys | Met | Arg | Asp |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |
| Glu | Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 74  
 <211> 263  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Chymotrypsinogen B precursor  
 <222> (1)..(263)  
 <223> Accession NO: as of 29 August 2003: P17538  
 <400> 74

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Phe | Leu | Trp | Leu | Leu | Ser | Cys | Trp | Ala | Leu | Leu | Gly | Thr | Thr |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Gly | Cys | Gly | Val | Pro | Ala | Ile | His | Pro | Val | Leu | Ser | Gly | Leu | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

Arg Ile Val Asn Gly Glu Asp Ala Val Pro Gly Ser Trp Pro Trp Gln  
           35                          40                          45  
 Val Ser Leu Gln Asp Lys Thr Gly Phe His Phe Cys Gly Gly Ser Leu  
           50                          55                          60  
 Ile Ser Glu Asp Trp Val Val Thr Ala Ala His Cys Gly Val Arg Thr  
 65                          70                          75                          80  
 Ser Asp Val Val Val Ala Gly Glu Phe Asp Gln Gly Ser Asp Glu Glu  
                           85                          90                          95  
 Asn Ile Gln Val Leu Lys Ile Ala Lys Val Phe Lys Asn Pro Lys Phe  
                           100                          105                          110  
 Ser Ile Leu Thr Val Asn Asn Asp Ile Thr Leu Leu Lys Leu Ala Thr  
           115                          120                          125  
 Pro Ala Arg Phe Ser Gln Thr Val Ser Ala Val Cys Leu Pro Ser Ala  
           130                          135                          140  
 Asp Asp Asp Phe Pro Ala Gly Thr Leu Cys Ala Thr Thr Gly Trp Gly  
 145                          150                          155                          160  
 Lys Thr Lys Tyr Asn Ala Asn Lys Thr Pro Asp Lys Leu Gln Gln Ala  
                           165                          170                          175  
 Ala Leu Pro Leu Leu Ser Asn Ala Glu Cys Lys Lys Ser Trp Gly Arg  
           180                          185                          190  
 Arg Ile Thr Asp Val Met Ile Cys Ala Gly Ala Ser Gly Val Ser Ser  
           195                          200                          205  
 Cys Met Gly Asp Ser Gly Gly Pro Leu Val Cys Gln Lys Asp Gly Ala  
           210                          215                          220  
 Trp Thr Leu Val Gly Ile Val Ser Trp Gly Ser Asp Thr Cys Ser Thr  
 225                          230                          235                          240  
 Ser Ser Pro Gly Val Tyr Ala Arg Val Thr Lys Leu Ile Pro Trp Val  
                           245                          250                          255  
 Gln Lys Ile Leu Ala Ala Asn  
           260

<210> 75  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Trypsin I precursor  
 <222> (1)..(247)  
 <223> Accession NO: as of 29 August 2003: P07477  
 <400> 75

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Asn | Pro | Leu | Leu | Ile | Leu | Thr | Phe | Val | Ala | Ala | Ala | Leu | Ala | Ala |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Pro | Phe | Asp | Asp | Asp | Asp | Lys | Ile | Val | Gly | Gly | Tyr | Asn | Cys | Glu | Glu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Asn | Ser | Val | Pro | Tyr | Gln | Val | Ser | Leu | Asn | Ser | Gly | Tyr | His | Phe | Cys |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Gly | Gly | Ser | Leu | Ile | Asn | Glu | Gln | Trp | Val | Val | Ser | Ala | Gly | His | Cys |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Tyr | Lys | Ser | Arg | Ile | Gln | Val | Arg | Leu | Gly | Glu | His | Asn | Ile | Glu | Val |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Leu | Glu | Gly | Asn | Glu | Gln | Phe | Ile | Asn | Ala | Ala | Lys | Ile | Ile | Arg | His |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Pro | Gln | Tyr | Asp | Arg | Lys | Thr | Leu | Asn | Asn | Asp | Ile | Met | Leu | Ile | Lys |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu | Ser | Ser | Arg | Ala | Val | Ile | Asn | Ala | Arg | Val | Ser | Thr | Ile | Ser | Leu |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Pro | Thr | Ala | Pro | Pro | Ala | Thr | Gly | Thr | Lys | Cys | Leu | Ile | Ser | Gly | Trp |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gly | Asn | Thr | Ala | Ser | Ser | Gly | Ala | Asp | Tyr | Pro | Asp | Glu | Leu | Gln | Cys |  |  |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |  |  |
| Leu | Asp | Ala | Pro | Val | Leu | Ser | Gln | Ala | Lys | Cys | Glu | Ala | Ser | Tyr | Pro |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |
| Gly | Lys | Ile | Thr | Ser | Asn | Met | Phe | Cys | Val | Gly | Phe | Leu | Glu | Gly | Gly |  |  |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |  |  |
| Lys | Asp | Ser | Cys | Gln | Gly | Asp | Ser | Gly | Gly | Pro | Val | Val | Cys | Asn | Gly |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |
| Gln | Leu | Gln | Gly | Val | Val | Ser | Trp | Gly | Asp | Gly | Cys | Ala | Gln | Lys | Asn |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Lys | Pro | Gly | Val | Tyr | Thr | Lys | Val | Tyr | Asn | Tyr | Val | Lys | Trp | Ile | Lys |  |  |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |  |  |
| Asn | Thr | Ile | Ala | Ala | Asn | Ser |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 245 |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 76  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Trypsin II precursor

<222> (1)..(247)

<223> Accession NO: as of 29 August 2003: P07478

<400> 76

Met Asn Leu Leu Leu Ile Leu Thr Phe Val Ala Ala Ala Val Ala Ala  
1 5 10 15  
Pro Phe Asp Asp Asp Asp Lys Ile Val Gly Gly Tyr Ile Cys Glu Glu  
20 25 30  
Asn Ser Val Pro Tyr Gln Val Ser Leu Asn Ser Gly Tyr His Phe Cys  
35 40 45  
Gly Gly Ser Leu Ile Ser Glu Gln Trp Val Val Ser Ala Gly His Cys  
50 55 60  
Tyr Lys Ser Arg Ile Gln Val Arg Leu Gly Glu His Asn Ile Glu Val  
65 70 75 80  
Leu Glu Gly Asn Glu Gln Phe Ile Asn Ala Ala Lys Ile Ile Arg His  
85 90 95  
Pro Lys Tyr Asn Ser Arg Thr Leu Asp Asn Asp Ile Leu Leu Ile Lys  
100 105 110  
Leu Ser Ser Pro Ala Val Ile Asn Ser Arg Val Ser Ala Ile Ser Leu  
115 120 125  
Pro Thr Ala Pro Pro Ala Ala Gly Thr Glu Ser Leu Ile Ser Gly Trp  
130 135 140  
Gly Asn Thr Leu Ser Ser Gly Ala Asp Tyr Pro Asp Glu Leu Gln Cys  
145 150 155 160  
Leu Asp Ala Pro Val Leu Ser Gln Ala Glu Cys Glu Ala Ser Tyr Pro  
165 170 175  
Gly Lys Ile Thr Asn Asn Met Phe Cys Val Gly Phe Leu Glu Gly Gly  
180 185 190  
Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Val Val Ser Asn Gly  
195 200 205  
Glu Leu Gln Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Gln Lys Asn  
210 215 220  
Arg Pro Gly Val Tyr Thr Lys Val Tyr Asn Tyr Val Asp Trp Ile Lys  
225 230 235 240  
Asp Thr Ile Ala Ala Asn Ser  
245

<210> 77

<211> 379

<212> PRT





Leu Pro Arg Phe Lys Leu Glu Glu Ser Tyr Thr Leu Asn Ser Asp Leu  
 275 280 285  
 Ala Arg Leu Gly Val Gln Asp Leu Phe Asn Ser Ser Lys Ala Asp Leu  
 290 295 300  
 Ser Gly Met Ser Gly Ala Arg Asp Ile Phe Ile Ser Lys Ile Val His  
 305 310 315 320  
 Lys Ser Phe Val Glu Val Asn Glu Glu Gly Thr Glu Ala Ala Ala Ala  
 325 330 335  
 Thr Ala Gly Ile Ala Thr Phe Cys Met Leu Met Pro Glu Glu Asn Phe  
 340 345 350  
 Thr Ala Asp His Pro Phe Leu Phe Phe Ile Arg His Asn Ser Ser Gly  
 355 360 365  
 Ser Ile Leu Phe Leu Gly Arg Phe Ser Ser Pro  
 325 375

<210> 78  
 <211> 573  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Hsp60  
 <222> (1)..(573)  
 <223> Accession NO: as of 29 August 2003: P10809  
 <400> 78

Met Leu Arg Leu Pro Thr Val Phe Arg Gln Met Arg Pro Val Ser Arg  
 1 5 10 15  
 Val Leu Ala Pro His Leu Thr Arg Ala Tyr Ala Lys Asp Val Lys Phe  
 20 25 30  
 Gly Ala Asp Ala Arg Ala Leu Met Leu Gln Gly Val Asp Leu Leu Ala  
 35 40 45  
 Asp Ala Val Ala Val Thr Met Gly Pro Lys Gly Arg Thr Val Ile Ile  
 50 55 60  
 Glu Gln Ser Trp Gly Ser Pro Lys Val Thr Lys Asp Gly Val Thr Val  
 65 70 75 80  
 Ala Lys Ser Ile Asp Leu Lys Asp Lys Tyr Lys Asn Ile Gly Ala Lys  
 85 90 95  
 Leu Val Gln Asp Val Ala Asn Asn Thr Asn Glu Glu Ala Gly Asp Gly  
 100 105 110  
 Thr Thr Thr Ala Thr Val Leu Ala Arg Ser Ile Ala Lys Glu Gly Phe

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Glu Lys Ile Ser Lys Gly Ala Asn Pro Val Glu Ile Arg Arg Gly Val |     |     |
| 130   | 135 | 140 |
| Met Leu Ala Val Asp Ala Val Ile Ala Glu Leu Lys Lys Gln Ser Lys |     |     |
| 145   | 150 | 155 |
| Pro Val Thr Thr Pro Glu Glu Ile Ala Gln Val Ala Thr Ile Ser Ala |     |     |
| 165   | 170 | 175 |
| Asn Gly Asp Lys Glu Ile Gly Asn Ile Ile Ser Asp Ala Met Lys Lys |     |     |
| 180   | 185 | 190 |
| Val Gly Arg Lys Gly Val Ile Thr Val Lys Asp Gly Lys Thr Leu Asn |     |     |
| 195   | 200 | 205 |
| Asp Glu Leu Glu Ile Ile Glu Gly Met Lys Phe Asp Arg Gly Tyr Ile |     |     |
| 210   | 215 | 220 |
| Ser Pro Tyr Phe Ile Asn Thr Ser Lys Gly Gln Lys Cys Glu Phe Gln |     |     |
| 225   | 230 | 235 |
| Asp Ala Tyr Val Leu Leu Ser Glu Lys Lys Ile Ser Ser Ile Gln Ser |     |     |
| 245   | 250 | 255 |
| Ile Val Pro Ala Leu Glu Ile Ala Asn Ala His Arg Lys Pro Leu Val |     |     |
| 260   | 265 | 270 |
| Ile Ile Ala Glu Asp Val Asp Gly Glu Ala Leu Ser Thr Leu Val Leu |     |     |
| 275   | 280 | 285 |
| Asn Arg Leu Lys Val Gly Leu Gln Val Val Ala Val Lys Ala Pro Gly |     |     |
| 290   | 295 | 300 |
| Phe Gly Asp Asn Arg Lys Asn Gln Leu Lys Asp Met Ala Ile Ala Thr |     |     |
| 305   | 310 | 315 |
| Gly Gly Ala Val Phe Gly Glu Glu Gly Leu Thr Leu Asn Leu Glu Asp |     |     |
| 325   | 330 | 335 |
| Val Gln Pro His Asp Leu Gly Lys Val Gly Glu Val Ile Val Thr Lys |     |     |
| 340   | 345 | 350 |
| Asp Asp Ala Met Leu Leu Lys Gly Lys Gly Asp Lys Ala Gln Ile Glu |     |     |
| 355   | 360 | 365 |
| Lys Arg Ile Gln Glu Ile Ile Glu Gln Leu Asp Val Thr Thr Ser Glu |     |     |
| 370   | 375 | 380 |
| Tyr Glu Lys Glu Lys Leu Asn Glu Arg Leu Ala Lys Leu Ser Asp Gly |     |     |
| 385   | 390 | 395 |
| Val Ala Val Leu Lys Val Gly Gly Thr Ser Asp Val Glu Val Asn Glu |     |     |
| 405   | 410 | 415 |
| Lys Lys Asp Arg Val Thr Asp Ala Leu Asn Ala Thr Arg Ala Ala Val |     |     |
| 420   | 425 | 430 |
| Glu Glu Gly Ile Val Leu Gly Gly Gly Cys Ala Leu Leu Arg Cys Ile |     |     |
| 435   | 440 | 445 |

Pro Ala Leu Asp Ser Leu Thr Pro Ala Asn Glu Asp Gln Lys Ile Gly  
 450 455 460  
 Ile Glu Ile Ile Lys Arg Thr Leu Lys Ile Pro Ala Met Thr Ile Ala  
 465 470 475 480  
 Lys Asn Ala Gly Val Glu Gly Ser Leu Ile Val Glu Lys Ile Met Gln  
 485 490 495  
 Ser Ser Ser Glu Val Gly Tyr Asp Ala Met Ala Gly Asp Phe Val Asn  
 500 505 510  
 Met Val Glu Lys Gly Ile Ile Asp Pro Thr Lys Val Val Arg Thr Ala  
 515 520 525  
 Leu Leu Asp Ala Ala Gly Val Ala Ser Leu Leu Thr Thr Ala Glu Val  
 530 535 540  
 Val Val Thr Glu Ile Pro Lys Glu Glu Lys Asp Pro Gly Met Gly Ala  
 545 550 555 560  
 Met Gly Gly Met Gly Gly Gly Met Gly Gly Gly Met Phe  
 325 570

<210> 79  
 <211> 803  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Endoplasmin precursor (GRP94)  
 <222> (1)..(803)  
 <223> Accession NO: as of 29 August 2003: P14625  
 <400> 79

Met Arg Ala Leu Trp Val Leu Gly Leu Cys Cys Val Leu Leu Thr Phe  
 1 5 10 15  
 Gly Ser Val Arg Ala Asp Asp Glu Val Asp Val Asp Gly Thr Val Glu  
 20 25 30  
 Glu Asp Leu Gly Lys Ser Arg Glu Gly Ser Arg Thr Asp Asp Glu Val  
 35 40 45  
 Val Gln Arg Glu Glu Glu Ala Ile Gln Leu Asp Gly Leu Asn Ala Ser  
 50 55 60  
 Gln Ile Arg Glu Leu Arg Glu Lys Ser Glu Lys Phe Ala Phe Gln Ala  
 65 70 75 80  
 Glu Val Asn Arg Met Met Lys Leu Ile Ile Asn Ser Leu Tyr Lys Asn  
 85 90 95  
 Lys Glu Ile Phe Leu Arg Glu Leu Ile Ser Asn Ala Ser Asp Ala Leu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |     |     |  |
| Asp | Lys | Ile | Arg | Leu | Ile | Ser | Leu | Thr | Asp | Glu | Asn | Ala | Leu | Ser | Gly |  |
| 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |     |  |
| Asn | Glu | Glu | Leu | Thr | Val | Lys | Ile | Lys | Cys | Asp | Lys | Glu | Lys | Asn | Leu |  |
| 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |  |
| Leu | His | Val | Thr | Asp | Thr | Gly | Val | Gly | Met | Thr | Arg | Glu | Glu | Leu | Val |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Lys | Asn | Leu | Gly | Thr | Ile | Ala | Lys | Ser | Gly | Thr | Ser | Glu | Phe | Leu | Asn |  |
| 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |     |     |     |  |
| Lys | Met | Thr | Glu | Ala | Gln | Glu | Asp | Gly | Gln | Ser | Thr | Ser | Glu | Leu | Ile |  |
| 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |     |     |  |
| Gly | Gln | Phe | Gly | Val | Gly | Phe | Tyr | Ser | Ala | Phe | Leu | Val | Ala | Asp | Lys |  |
| 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |     |  |
| Val | Ile | Val | Thr | Ser | Lys | His | Asn | Asn | Asp | Thr | Gln | His | Ile | Trp | Glu |  |
| 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |  |
| Ser | Asp | Ser | Asn | Glu | Phe | Ser | Val | Ile | Ala | Asp | Pro | Arg | Gly | Asn | Thr |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Leu | Gly | Arg | Gly | Thr | Thr | Ile | Thr | Leu | Val | Leu | Lys | Glu | Glu | Ala | Ser |  |
| 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |     |     |     |  |
| Asp | Tyr | Leu | Glu | Leu | Asp | Thr | Ile | Lys | Asn | Leu | Val | Lys | Lys | Tyr | Ser |  |
| 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |     |     |  |
| Gln | Phe | Ile | Asn | Phe | Pro | Ile | Tyr | Val | Trp | Ser | Ser | Lys | Thr | Glu | Thr |  |
| 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |     |  |
| Val | Glu | Glu | Pro | Met | Glu | Glu | Glu | Glu | Ala | Ala | Lys | Glu | Glu | Lys | Glu |  |
| 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |  |
| Glu | Ser | Asp | Asp | Glu | Ala | Ala | Val | Glu | Glu | Glu | Glu | Glu | Glu | Lys | Lys |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |
| Pro | Lys | Thr | Lys | Lys | Val | Glu | Lys | Thr | Val | Trp | Asp | Trp | Glu | Leu | Met |  |
| 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |     |     |     |  |
| Asn | Asp | Ile | Lys | Pro | Ile | Trp | Gln | Arg | Pro | Ser | Lys | Glu | Val | Glu | Glu |  |
| 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |     |     |  |
| Asp | Glu | Tyr | Lys | Ala | Phe | Tyr | Lys | Ser | Phe | Ser | Lys | Glu | Ser | Asp | Asp |  |
| 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |     |  |
| Pro | Met | Ala | Tyr | Ile | His | Phe | Thr | Ala | Glu | Gly | Glu | Val | Thr | Phe | Lys |  |
| 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |     |  |
| Ser | Ile | Leu | Phe | Val | Pro | Thr | Ser | Ala | Pro | Arg | Gly | Leu | Phe | Asp | Glu |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Tyr | Gly | Ser | Lys | Lys | Ser | Asp | Tyr | Ile | Lys | Leu | Tyr | Val | Arg | Arg | Val |  |
| 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |     |     |     |  |
| Phe | Ile | Thr | Asp | Asp | Phe | His | Asp | Met | Met | Pro | Lys | Tyr | Leu | Asn | Phe |  |
| 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |     |     |     |  |



755                      760                      765  
 Asp Thr Thr Glu Asp Thr Glu Gln Asp Glu Asp Glu Glu Met Asp Val  
 770                      775                      780  
 Gly Thr Asp Glu Glu Glu Glu Thr Ala Lys Glu Ser Thr Ala Glu Lys  
 785                      790                      795                      800  
 Asp Glu Leu

<210> 80  
 <211> 261  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Endoplasmic reticulum protein Erp29 precursor (Erp31) (Erp28)  
 <222> (1)..(261)  
 <223> Accession NO: as of 29 August 2003: P30040  
 <400> 80

Met Ala Ala Ala Val Pro Arg Ala Ala Phe Leu Ser Pro Leu Leu Pro  
 1                      5                      10                      15  
 Leu Leu Leu Gly Phe Leu Leu Leu Ser Ala Pro His Gly Gly Ser Gly  
 20                      25                      30  
 Leu His Thr Lys Gly Ala Leu Pro Leu Asp Thr Val Thr Phe Tyr Lys  
 35                      40                      45  
 Val Ile Pro Lys Ser Lys Phe Val Leu Val Lys Phe Asp Thr Gln Tyr  
 50                      55                      60  
 Pro Tyr Gly Glu Lys Gln Asp Glu Phe Lys Arg Leu Ala Glu Asn Ser  
 65                      70                      75                      80  
 Ala Ser Ser Asp Asp Leu Leu Val Ala Glu Val Gly Ile Ser Asp Tyr  
 85                      90                      95  
 Gly Asp Lys Leu Asn Met Glu Leu Ser Glu Lys Tyr Lys Leu Asp Lys  
 100                      105                      110  
 Glu Ser Tyr Pro Val Phe Tyr Leu Phe Arg Asp Gly Asp Phe Glu Asn  
 115                      120                      125  
 Pro Val Pro Tyr Thr Gly Ala Val Lys Val Gly Ala Ile Gln Arg Trp  
 130                      135                      140  
 Leu Lys Gly Gln Gly Val Tyr Leu Gly Met Pro Gly Cys Leu Pro Val  
 145                      150                      155                      160  
 Tyr Asp Ala Leu Ala Gly Glu Phe Ile Arg Ala Ser Gly Val Glu Ala  
 165                      170                      175

Arg Gln Ala Leu Leu Lys Gln Gly Gln Asp Asn Leu Ser Ser Val Lys  
 180 185 190  
 Glu Thr Gln Lys Lys Trp Ala Glu Gln Tyr Leu Lys Ile Met Gly Lys  
 195 200 205  
 Ile Leu Asp Gln Gly Glu Asp Phe Pro Ala Ser Glu Met Thr Arg Ile  
 210 215 220  
 Ala Arg Leu Ile Glu Lys Asn Lys Met Ser Asp Gly Lys Lys Glu Glu  
 225 230 235 240  
 Leu Gln Lys Ser Leu Asn Ile Leu Thr Ala Phe Gln Lys Lys Gly Ala  
 245 250 255  
 Glu Lys Glu Glu Leu  
 260

<210> 81  
 <211> 525  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Protein disulfide isomerase A2 precursor  
 <222> (1)..(525)  
 <223> Accession NO: as of 29 August 2003: Q13087  
 <400> 81

Met Ser Arg Gln Leu Leu Pro Val Leu Leu Leu Leu Leu Leu Arg Ala  
 1 5 10 15  
 Ser Cys Pro Trp Gly Gln Glu Gln Gly Ala Arg Ser Pro Ser Glu Glu  
 20 25 30  
 Pro Pro Glu Glu Glu Ile Pro Lys Glu Asp Gly Ile Leu Val Leu Ser  
 35 40 45  
 Arg His Thr Leu Gly Leu Ala Leu Arg Glu His Pro Ala Leu Leu Val  
 50 55 60  
 Glu Phe Tyr Ala Pro Trp Cys Gly His Cys Gln Ala Leu Ala Pro Glu  
 65 70 75 80  
 Tyr Ser Lys Ala Ala Ala Val Leu Ala Ala Glu Ser Met Val Val Thr  
 85 90 95  
 Leu Ala Lys Val Asp Gly Pro Ala Gln Arg Glu Leu Ala Glu Glu Phe  
 100 105 110  
 Gly Val Thr Glu Tyr Pro Thr Leu Lys Phe Phe Arg Asn Gly Asn Arg  
 115 120 125  
 Thr His Pro Glu Glu Tyr Thr Gly Pro Arg Asp Ala Glu Gly Ile Ala



|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Glu Trp Leu Arg Arg Arg Val Gly Pro Ser Ala Met Arg Leu Glu Asp |     |     |
| 145   | 150 | 155 |
| Glu Ala Ala Ala Gln Ala Leu Ile Gly Gly Arg Asp Leu Val Val Ile |     | 160 |
|   | 165 | 170 |
| Gly Phe Phe Gln Asp Leu Gln Asp Glu Asp Val Ala Thr Phe Leu Ala |     | 175 |
|   | 180 | 185 |
| Leu Ala Gln Asp Ala Leu Asp Met Thr Phe Gly Leu Thr Asp Arg Pro |     | 190 |
|   | 195 | 200 |
| Arg Leu Phe Gln Gln Phe Gly Leu Thr Lys Asp Thr Val Val Leu Phe |     | 205 |
|   | 210 | 215 |
| Lys Lys Phe Asp Glu Gly Arg Ala Asp Phe Pro Val Asp Glu Glu Leu |     | 220 |
| 225   | 230 | 235 |
| Gly Leu Asp Leu Gly Asp Leu Ser Arg Phe Leu Val Thr His Ser Met |     | 240 |
|   | 245 | 250 |
| Arg Leu Val Thr Glu Phe Asn Ser Gln Thr Ser Ala Lys Ile Phe Ala |     | 255 |
|   | 260 | 265 |
| Ala Arg Ile Leu Asn His Leu Leu Leu Phe Val Asn Gln Thr Leu Ala |     | 270 |
|   | 275 | 280 |
| Ala His Arg Glu Leu Leu Ala Gly Phe Gly Glu Ala Ala Pro Arg Phe |     | 285 |
|   | 290 | 295 |
| Arg Gly Gln Val Leu Phe Val Val Val Asp Val Ala Ala Asp Asn Glu |     | 300 |
| 305   | 310 | 315 |
| His Val Leu Gln Tyr Phe Gly Leu Lys Ala Glu Ala Ala Pro Thr Leu |     | 320 |
|   | 325 | 330 |
| Arg Leu Val Asn Leu Glu Thr Thr Lys Lys Tyr Ala Pro Val Asp Gly |     | 335 |
|   | 340 | 345 |
| Gly Pro Val Thr Ala Ala Ser Ile Thr Ala Phe Cys His Ala Val Leu |     | 350 |
|   | 355 | 360 |
| Asn Gly Gln Val Lys Pro Tyr Leu Leu Ser Gln Glu Ile Pro Pro Asp |     | 365 |
|   | 370 | 375 |
| Trp Asp Gln Arg Pro Val Lys Thr Leu Val Gly Lys Asn Phe Glu Gln |     | 380 |
| 385   | 390 | 395 |
| Val Ala Phe Asp Glu Thr Lys Asn Val Phe Val Lys Phe Tyr Ala Pro |     | 400 |
|   | 405 | 410 |
| Trp Cys Thr His Cys Lys Glu Met Ala Pro Ala Trp Glu Ala Leu Ala |     | 415 |
|   | 420 | 425 |
| Glu Lys Tyr Gln Asp His Glu Asp Ile Ile Ile Ala Glu Leu Asp Ala |     | 430 |
|   | 435 | 440 |
| Thr Ala Asn Glu Leu Asp Ala Phe Ala Val His Gly Phe Pro Thr Leu |     | 445 |
|   | 450 | 460 |

Lys Tyr Phe Pro Ala Gly Pro Gly Arg Lys Val Ile Glu Tyr Lys Ser  
 465 470 475 480  
 Thr Arg Asp Leu Glu Thr Phe Ser Lys Phe Leu Asp Asn Gly Gly Val  
 485 490 495  
 Leu Pro Thr Glu Glu Pro Pro Glu Glu Pro Ala Ala Pro Phe Pro Glu  
 500 505 510  
 Pro Pro Ala Asn Ser Thr Met Gly Ser Lys Glu Glu Leu  
 515 520 525

<210> 82  
 <211> 505  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Protein disulfide isomerase A3 precursor  
 <222> (1)..(505)  
 <223> Accession NO: as of 29 August 2003: P30101  
 <400> 82

Met Arg Leu Arg Arg Leu Ala Leu Phe Pro Gly Val Ala Leu Leu Leu  
 1 5 10 15  
 Ala Ala Ala Arg Leu Ala Ala Ala Ser Asp Val Leu Glu Leu Thr Asp  
 20 25 30  
 Asp Asn Phe Glu Ser Arg Ile Ser Asp Thr Gly Ser Ala Gly Leu Met  
 35 40 45  
 Leu Val Glu Phe Phe Ala Pro Trp Cys Gly His Cys Lys Arg Leu Ala  
 50 55 60  
 Pro Glu Tyr Glu Ala Ala Ala Thr Arg Leu Lys Gly Ile Val Pro Leu  
 65 70 75 80  
 Ala Lys Val Asp Cys Thr Ala Asn Thr Asn Thr Cys Asn Lys Tyr Gly  
 85 90 95  
 Val Ser Gly Tyr Pro Thr Leu Lys Ile Phe Arg Asp Gly Glu Glu Ala  
 100 105 110  
 Gly Ala Tyr Asp Gly Pro Arg Thr Ala Asp Gly Ile Val Ser His Leu  
 115 120 125  
 Lys Lys Gln Ala Gly Pro Ala Ser Val Pro Leu Arg Thr Glu Glu Glu  
 130 135 140  
 Phe Lys Lys Phe Ile Ser Asp Lys Asp Ala Ser Ile Val Gly Phe Phe  
 145 150 155 160  
 Asp Asp Ser Phe Ser Glu Ala His Ser Glu Phe Leu Lys Ala Ala Ser

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 165 |     | 170 |     | 175 |
| Asn Leu Arg Asp Asn Tyr Arg Phe Ala His Thr Asn Val Glu Ser Leu |     |     |     |     |     |
|   | 180 |     | 185 |     | 190 |
| Val Asn Glu Tyr Asp Asp Asn Gly Glu Gly Ile Ile Leu Phe Arg Pro |     |     |     |     |     |
|   | 195 |     | 200 |     | 205 |
| Ser His Leu Thr Asn Lys Phe Glu Asp Lys Thr Val Ala Tyr Thr Glu |     |     |     |     |     |
|   | 210 |     | 215 |     | 220 |
| Gln Lys Met Thr Ser Gly Lys Ile Lys Lys Phe Ile Gln Glu Asn Ile |     |     |     |     |     |
| 225   |     | 230 |     | 235 | 240 |
| Phe Gly Ile Cys Pro His Met Thr Glu Asp Asn Lys Asp Leu Ile Gln |     |     |     |     |     |
|   | 245 |     | 250 |     | 255 |
| Gly Lys Asp Leu Leu Ile Ala Tyr Tyr Asp Val Asp Tyr Glu Lys Asn |     |     |     |     |     |
|   | 260 |     | 265 |     | 270 |
| Ala Lys Gly Ser Asn Tyr Trp Arg Asn Arg Val Met Met Val Ala Lys |     |     |     |     |     |
|   | 275 |     | 280 |     | 285 |
| Lys Phe Leu Asp Ala Gly His Lys Leu Asn Phe Ala Val Ala Ser Arg |     |     |     |     |     |
|   | 290 |     | 295 |     | 300 |
| Lys Thr Phe Ser His Glu Leu Ser Asp Phe Gly Leu Glu Ser Thr Ala |     |     |     |     |     |
| 305   |     | 310 |     | 315 | 320 |
| Gly Glu Ile Pro Val Val Ala Ile Arg Thr Ala Lys Gly Glu Lys Phe |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |
| Val Met Gln Glu Glu Phe Ser Arg Asp Gly Lys Ala Leu Glu Arg Phe |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |
| Leu Gln Asp Tyr Phe Asp Gly Asn Leu Lys Arg Tyr Leu Lys Ser Glu |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |
| Pro Ile Pro Glu Ser Asn Asp Gly Pro Val Lys Val Val Val Ala Glu |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |
| Asn Phe Asp Glu Ile Val Asn Asn Glu Asn Lys Asp Val Leu Ile Glu |     |     |     |     |     |
| 385   |     | 390 |     | 395 | 400 |
| Phe Tyr Ala Pro Trp Cys Gly His Cys Lys Asn Leu Glu Pro Lys Tyr |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |
| Lys Glu Leu Gly Glu Lys Leu Ser Lys Asp Pro Asn Ile Val Ile Ala |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |
| Lys Met Asp Ala Thr Ala Asn Asp Val Pro Ser Pro Tyr Glu Val Arg |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |
| Gly Phe Pro Thr Ile Tyr Phe Ser Pro Ala Asn Lys Lys Leu Asn Pro |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |
| Lys Lys Tyr Glu Gly Gly Arg Glu Leu Ser Asp Phe Ile Ser Tyr Leu |     |     |     |     |     |
| 465   |     | 470 |     | 475 | 480 |
| Gln Arg Glu Ala Thr Asn Pro Pro Val Ile Gln Glu Glu Lys Pro Lys |     |     |     |     |     |
|   | 485 |     | 490 |     | 495 |

Lys Lys Lys Lys Ala Gln Glu Asp Leu  
 325 505

<210> 83  
 <211> 374  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Alcohol dehydrogenase beta chain  
 <222> (1)..(374)  
 <223> Accession NO: as of 29 August 2003: P00325  
 <400> 83

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Thr | Ala | Gly | Lys | Val | Ile | Lys | Cys | Lys | Ala | Ala | Val | Leu | Trp | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Lys | Lys | Pro | Phe | Ser | Ile | Glu | Asp | Val | Glu | Val | Ala | Pro | Pro | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |
| Ala | Tyr | Glu | Val | Arg | Ile | Lys | Met | Val | Ala | Val | Gly | Ile | Cys | Arg | Thr |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Asp | His | Val | Val | Ser | Gly | Asn | Leu | Val | Thr | Pro | Leu | Pro | Val | Ile |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Gly | His | Glu | Ala | Ala | Gly | Ile | Val | Glu | Ser | Val | Gly | Glu | Gly | Val |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Thr | Thr | Val | Lys | Pro | Gly | Asp | Lys | Val | Ile | Pro | Leu | Phe | Thr | Pro | Gln |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Cys | Gly | Lys | Cys | Arg | Val | Cys | Lys | Asn | Pro | Glu | Ser | Asn | Tyr | Cys | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Asn | Asp | Leu | Gly | Asn | Pro | Arg | Gly | Thr | Leu | Gln | Asp | Gly | Thr | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Phe | Thr | Cys | Arg | Gly | Lys | Pro | Ile | His | His | Phe | Leu | Gly | Thr | Ser |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Phe | Ser | Gln | Tyr | Thr | Val | Val | Asp | Glu | Asn | Ala | Val | Ala | Lys | Ile |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Asp | Ala | Ala | Ser | Pro | Leu | Glu | Lys | Val | Cys | Leu | Ile | Gly | Cys | Gly | Phe |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ser | Thr | Gly | Tyr | Gly | Ser | Ala | Val | Asn | Val | Ala | Lys | Val | Thr | Pro | Gly |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Thr | Cys | Ala | Val | Phe | Gly | Leu | Gly | Gly | Val | Gly | Leu | Ser | Ala | Val |
|     |     | 195 |     |     |     |     | 200 |     |     |     | 205 |     |     |     |     |
| Met | Gly | Cys | Lys | Ala | Ala | Gly | Ala | Ala | Arg | Ile | Ile | Ala | Val | Asp | Ile |

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 210   |     | 215 |     | 220 |
| Asn Lys Asp Lys Phe Ala Lys Ala Lys Glu Leu Gly Ala Thr Glu Cys |     |     |     |     |
| 225   |     | 230 |     | 240 |
| Ile Asn Pro Gln Asp Tyr Lys Lys Pro Ile Gln Glu Val Leu Lys Glu |     |     |     |     |
|   | 245 |     | 250 | 255 |
| Met Thr Asp Gly Gly Val Asp Phe Ser Phe Glu Val Ile Gly Arg Leu |     |     |     |     |
|   | 260 |     | 265 | 270 |
| Asp Thr Met Met Ala Ser Leu Leu Cys Cys His Glu Ala Cys Gly Thr |     |     |     |     |
|   | 275 |     | 280 | 285 |
| Ser Val Ile Val Gly Val Pro Pro Ala Ser Gln Asn Leu Ser Ile Asn |     |     |     |     |
|   | 290 |     | 295 | 300 |
| Pro Met Leu Leu Leu Thr Gly Arg Thr Trp Lys Gly Ala Val Tyr Gly |     |     |     |     |
| 305   |     | 310 |     | 320 |
| Gly Phe Lys Ser Lys Glu Gly Ile Pro Lys Leu Val Ala Asp Phe Met |     |     |     |     |
|   | 325 |     | 330 | 335 |
| Ala Lys Lys Phe Ser Leu Asp Ala Leu Ile Thr His Val Leu Pro Phe |     |     |     |     |
|   | 340 |     | 345 | 350 |
| Glu Lys Ile Asn Glu Gly Phe Asp Leu Leu His Ser Gly Lys Ser Ile |     |     |     |     |
|   | 355 |     | 360 | 365 |
| Arg Thr Val Leu Thr Phe   |     |     |     |     |
| 370   |     |     |     |     |

<210> 84  
 <211> 241  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Glutathione transferase omega 1  
 <222> (1)..(241)  
 <223> Accession NO: as of 29 August 2003: P78417  
 <400> 84

|   |    |    |    |
|---|----|----|----|
| Met Ser Gly Glu Ser Ala Arg Ser Leu Gly Lys Gly Ser Ala Pro Pro |    |    |    |
| 1   | 5  | 10 | 15 |
| Gly Pro Val Pro Glu Gly Ser Ile Arg Ile Tyr Ser Met Arg Phe Cys |    |    |    |
|   | 20 | 25 | 30 |
| Pro Phe Ala Glu Arg Thr Arg Leu Val Leu Lys Ala Lys Gly Ile Arg |    |    |    |
|   | 35 | 40 | 45 |
| His Glu Val Ile Asn Ile Asn Leu Lys Asn Lys Pro Glu Trp Phe Phe |    |    |    |
| 50  | 55 | 60 |    |

Lys Lys Asn Pro Phe Gly Leu Val Pro Val Leu Glu Asn Ser Gln Gly  
 65 70 75 80  
 Gln Leu Ile Tyr Glu Ser Ala Ile Thr Cys Glu Tyr Leu Asp Glu Ala  
 85 90 95  
 Tyr Pro Gly Lys Lys Leu Leu Pro Asp Asp Pro Tyr Glu Lys Ala Cys  
 100 105 110  
 Gln Lys Met Ile Leu Glu Leu Phe Ser Lys Val Pro Ser Leu Val Gly  
 115 120 125  
 Ser Phe Ile Arg Ser Gln Asn Lys Glu Asp Tyr Ala Gly Leu Lys Glu  
 130 135 140  
 Glu Phe Arg Lys Glu Phe Thr Lys Leu Glu Glu Val Leu Thr Asn Lys  
 145 150 155 160  
 Lys Thr Thr Phe Phe Gly Gly Asn Ser Ile Ser Met Ile Asp Tyr Leu  
 165 170 175  
 Ile Trp Pro Trp Phe Glu Arg Leu Glu Ala Met Lys Leu Asn Glu Cys  
 180 185 190  
 Val Asp His Thr Pro Lys Leu Lys Leu Trp Met Ala Ala Met Lys Glu  
 195 200 205  
 Asp Pro Thr Val Ser Ala Leu Leu Thr Ser Glu Lys Asp Trp Gln Gly  
 210 215 220  
 Phe Leu Glu Leu Tyr Leu Gln Asn Ser Pro Glu Ala Cys Asp Tyr Gly  
 225 230 235 240  
 Leu

<210> 85  
 <211> 999  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> 150 kDa oxygen-regulated protein precursor (Orp150)  
 <222> (1)..(999)  
 <223> Accession NO: as of 29 August 2003: Q9Y4L1  
 <400> 85

Met Ala Asp Lys Val Arg Arg Gln Arg Pro Arg Arg Arg Val Cys Trp  
 1 5 10 15  
 Ala Leu Val Ala Val Leu Leu Ala Asp Leu Leu Ala Leu Ser Asp Thr  
 20 25 30  
 Leu Ala Val Met Ser Val Asp Leu Gly Ser Glu Ser Met Lys Val Ala

|   |     |     |
|---|-----|-----|
| 35  | 40  | 45  |
| Ile Val Lys Pro Gly Val Pro Met Glu Ile Val Leu Asn Lys Glu Ser |     |     |
| 50  | 55  | 60  |
| Arg Arg Lys Thr Pro Val Ile Val Thr Leu Lys Glu Asn Glu Arg Phe |     |     |
| 65  | 70  | 75  |
| Phe Gly Asp Ser Ala Ala Ser Met Ala Ile Lys Asn Pro Lys Ala Thr |     |     |
| 85  | 90  | 95  |
| Leu Arg Tyr Phe Gln His Leu Leu Gly Lys Gln Ala Asp Asn Pro His |     |     |
| 100   | 105 | 110 |
| Val Ala Leu Tyr Gln Ala Arg Phe Pro Glu His Glu Leu Thr Phe Asp |     |     |
| 115   | 120 | 125 |
| Pro Gln Arg Gln Thr Val His Phe Gln Ile Ser Ser Gln Leu Gln Phe |     |     |
| 130   | 135 | 140 |
| Ser Pro Glu Glu Val Leu Gly Met Val Leu Asn Tyr Ser Arg Ser Leu |     |     |
| 145   | 150 | 155 |
| Ala Glu Asp Phe Ala Glu Gln Pro Ile Lys Asp Ala Val Ile Thr Val |     |     |
| 165   | 170 | 175 |
| Pro Val Phe Phe Asn Gln Ala Glu Arg Arg Ala Val Leu Gln Ala Ala |     |     |
| 180   | 185 | 190 |
| Arg Met Ala Gly Leu Lys Val Leu Gln Leu Ile Asn Asp Asn Thr Ala |     |     |
| 195   | 200 | 205 |
| Thr Ala Leu Ser Tyr Gly Val Phe Arg Arg Lys Asp Ile Asn Thr Thr |     |     |
| 210   | 215 | 220 |
| Ala Gln Asn Ile Met Phe Tyr Asp Met Gly Ser Gly Ser Thr Val Cys |     |     |
| 225   | 230 | 235 |
| Thr Ile Val Thr Tyr Gln Met Val Lys Thr Lys Glu Ala Gly Met Gln |     |     |
| 245   | 250 | 255 |
| Pro Gln Leu Gln Ile Arg Gly Val Gly Phe Asp Arg Thr Leu Gly Gly |     |     |
| 260   | 265 | 270 |
| Leu Glu Met Glu Leu Arg Leu Arg Glu Arg Leu Ala Gly Leu Phe Asn |     |     |
| 275   | 280 | 285 |
| Glu Gln Arg Lys Gly Gln Arg Ala Lys Asp Val Arg Glu Asn Pro Arg |     |     |
| 290   | 295 | 300 |
| Ala Met Ala Lys Leu Leu Arg Glu Ala Asn Arg Leu Lys Thr Val Leu |     |     |
| 305   | 310 | 315 |
| Ser Ala Asn Ala Asp His Met Ala Gln Ile Glu Gly Leu Met Asp Asp |     |     |
| 325   | 330 | 335 |
| Val Asp Phe Lys Ala Lys Val Thr Arg Val Glu Phe Glu Glu Leu Cys |     |     |
| 340   | 345 | 350 |
| Ala Asp Leu Phe Glu Arg Val Pro Gly Pro Val Gln Gln Ala Leu Gln |     |     |
| 355   | 360 | 365 |

Ser Ala Glu Met Ser Leu Asp Glu Ile Glu Gln Val Ile Leu Val Gly  
 370 375 380  
 Gly Ala Thr Arg Val Pro Arg Val Gln Glu Val Leu Leu Lys Ala Val  
 385 390 395 400  
 Gly Lys Glu Glu Leu Gly Lys Asn Ile Asn Ala Asp Glu Ala Ala Ala  
 405 410 415  
 Met Gly Ala Val Tyr Gln Ala Ala Ala Leu Ser Lys Ala Phe Lys Val  
 420 425 430  
 Lys Pro Phe Val Val Arg Asp Ala Val Val Tyr Pro Ile Leu Val Glu  
 435 440 445  
 Phe Thr Arg Glu Val Glu Glu Glu Pro Gly Ile His Ser Leu Lys His  
 450 455 460  
 Asn Lys Arg Val Leu Phe Ser Arg Met Gly Pro Tyr Pro Gln Arg Lys  
 465 470 475 480  
 Val Ile Thr Phe Asn Arg Tyr Ser His Asp Phe Asn Phe His Ile Asn  
 485 490 495  
 Tyr Gly Asp Leu Gly Phe Leu Gly Pro Glu Asp Leu Arg Val Phe Gly  
 500 505 510  
 Ser Gln Asn Leu Thr Thr Val Lys Leu Lys Gly Val Gly Asp Ser Phe  
 515 520 525  
 Lys Lys Tyr Pro Asp Tyr Glu Ser Lys Gly Ile Lys Ala His Phe Asn  
 530 535 540  
 Leu Asp Glu Ser Gly Val Leu Ser Leu Asp Arg Val Glu Ser Val Phe  
 545 550 555 560  
 Glu Thr Leu Val Glu Asp Ser Ala Glu Glu Glu Ser Thr Leu Thr Lys  
 565 570 575  
 Leu Gly Asn Thr Ile Ser Ser Leu Phe Gly Gly Gly Thr Thr Pro Asp  
 580 585 590  
 Ala Lys Glu Asn Gly Thr Asp Thr Val Gln Glu Glu Glu Glu Ser Pro  
 595 600 605  
 Ala Glu Gly Ser Lys Asp Glu Pro Gly Glu Gln Val Glu Leu Lys Glu  
 610 615 620  
 Glu Ala Glu Ala Pro Val Glu Asp Gly Ser Gln Pro Pro Pro Pro Glu  
 625 630 635 640  
 Pro Lys Gly Asp Ala Thr Pro Glu Gly Glu Lys Ala Thr Glu Lys Glu  
 645 650 655  
 Asn Gly Asp Lys Ser Glu Ala Gln Lys Pro Ser Glu Lys Ala Glu Ala  
 660 665 670  
 Gly Pro Glu Gly Val Ala Pro Ala Pro Glu Gly Glu Lys Lys Gln Lys  
 675 680 685  
 Pro Ala Arg Lys Arg Arg Met Val Glu Glu Ile Gly Val Glu Leu Val



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 690   |     | 695 |     | 700 |
| Val Leu Asp Leu Pro Asp Leu Pro Glu Asp Lys Leu Ala Gln Ser Val |     |     |     |     |
| 705   |     | 710 |     | 715 |
| Gln Lys Leu Gln Asp Leu Thr Leu Arg Asp Leu Glu Lys Gln Glu Arg |     |     |     |     |
|   | 725 |     | 730 | 735 |
| Glu Lys Ala Ala Asn Ser Leu Glu Ala Phe Ile Phe Glu Thr Gln Asp |     |     |     |     |
|   | 740 |     | 745 | 750 |
| Lys Leu Tyr Gln Pro Glu Tyr Gln Glu Val Ser Thr Glu Glu Gln Arg |     |     |     |     |
|   | 755 |     | 760 | 765 |
| Glu Glu Ile Ser Gly Lys Leu Ser Ala Ala Ser Thr Trp Leu Glu Asp |     |     |     |     |
|   | 770 |     | 775 | 780 |
| Glu Gly Val Gly Ala Thr Thr Val Met Leu Lys Glu Lys Leu Ala Glu |     |     |     |     |
| 785   |     | 790 |     | 795 |
| Leu Arg Lys Leu Cys Gln Gly Leu Phe Phe Arg Val Glu Glu Arg Lys |     |     |     |     |
|   | 805 |     | 810 | 815 |
| Lys Trp Pro Glu Arg Leu Ser Ala Leu Asp Asn Leu Leu Asn His Ser |     |     |     |     |
|   | 820 |     | 825 | 830 |
| Ser Met Phe Leu Lys Gly Ala Arg Leu Ile Pro Glu Met Asp Gln Ile |     |     |     |     |
|   | 835 |     | 840 | 845 |
| Phe Thr Glu Val Glu Met Thr Thr Leu Glu Lys Val Ile Asn Glu Thr |     |     |     |     |
|   | 850 |     | 855 | 860 |
| Trp Ala Trp Lys Asn Ala Thr Leu Ala Glu Gln Ala Lys Leu Pro Ala |     |     |     |     |
| 865   |     | 870 |     | 875 |
| Thr Glu Lys Pro Val Leu Leu Ser Lys Asp Ile Glu Ala Lys Met Met |     |     |     |     |
|   | 885 |     | 890 | 895 |
| Ala Leu Asp Arg Glu Val Gln Tyr Leu Leu Asn Lys Ala Lys Phe Thr |     |     |     |     |
|   | 900 |     | 905 | 910 |
| Lys Pro Arg Pro Arg Pro Lys Asp Lys Asn Gly Thr Arg Ala Glu Pro |     |     |     |     |
|   | 915 |     | 920 | 925 |
| Pro Leu Asn Ala Ser Ala Ser Asp Gln Gly Glu Lys Val Ile Pro Pro |     |     |     |     |
|   | 930 |     | 935 | 940 |
| Ala Gly Gln Thr Glu Asp Ala Glu Pro Ile Ser Glu Pro Glu Lys Val |     |     |     |     |
| 945   |     | 950 |     | 955 |
| Glu Thr Gly Ser Glu Pro Gly Asp Thr Glu Pro Leu Glu Leu Gly Gly |     |     |     |     |
|   | 965 |     | 970 | 975 |
| Pro Gly Ala Glu Pro Glu Gln Lys Glu Gln Ser Thr Gly Gln Lys Arg |     |     |     |     |
|   | 980 |     | 985 | 990 |
| Pro Leu Lys Asn Asp Glu Leu                                     |     |     |     |     |
| 995   |     |     |     |     |

<210> 86  
 <211> 271  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Peroxiredoxin 4  
 <222> (1) .. (271)  
 <223> Accession NO: as of 29 August 2003: Q13162  
 <400> 86

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Met Glu Ala Leu Pro Leu Leu Ala Ala Thr Thr Pro Asp His Gly Arg
1           5           10           15
His Arg Arg Leu Leu Leu Leu Pro Leu Leu Leu Phe Leu Leu Pro Ala
          20           25           30
Gly Ala Val Gln Gly Trp Glu Thr Glu Glu Arg Pro Arg Thr Arg Glu
          35           40           45
Glu Glu Cys His Phe Tyr Ala Gly Gly Gln Val Tyr Pro Gly Glu Ala
          50           55           60
Ser Arg Val Ser Val Ala Asp His Ser Leu His Leu Ser Lys Ala Lys
65           70           75           80
Ile Ser Lys Pro Ala Pro Tyr Trp Glu Gly Thr Ala Val Ile Asp Gly
          85           90           95
Glu Phe Lys Glu Leu Lys Leu Thr Asp Tyr Arg Gly Lys Tyr Leu Val
          100          105          110
Phe Phe Phe Tyr Pro Leu Asp Phe Thr Phe Val Cys Pro Thr Glu Ile
          115          120          125
Ile Ala Phe Gly Asp Arg Leu Glu Glu Phe Arg Ser Ile Asn Thr Glu
          130          135          140
Val Val Ala Cys Ser Val Asp Ser Gln Phe Thr His Leu Ala Trp Ile
145           150           155           160
Asn Thr Pro Arg Arg Gln Gly Gly Leu Gly Pro Ile Arg Ile Pro Leu
          165          170          175
Leu Ser Asp Leu Thr His Gln Ile Ser Lys Asp Tyr Gly Val Tyr Leu
          180          185          190
Glu Asp Ser Gly His Thr Leu Arg Gly Leu Phe Ile Ile Asp Asp Lys
          195          200          205
Gly Ile Leu Arg Gln Ile Thr Leu Asn Asp Leu Pro Val Gly Arg Ser
          210          215          220
Val Asp Glu Thr Leu Arg Leu Val Gln Ala Phe Gln Tyr Thr Asp Lys
225           230           235           240
His Gly Glu Val Cys Pro Ala Gly Trp Lys Pro Gly Ser Glu Thr Ile
  
```

|             |   |     |     |
|-------------|---|-----|-----|
|             | 245   | 250 | 255 |
| Ile Pro Asp | Pro Ala Gly Lys Leu Lys Tyr Phe Asp Lys Leu Asn |     |     |
|             | 260   | 265 | 270 |

<210> 87  
 <211> 288  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> MAWD binding protein  
 <222> (1)..(288)  
 <223> Accession NO: as of 29 August 2003: P30039  
 <400> 87

|   |     |     |     |
|---|-----|-----|-----|
| Met Lys Leu Pro Ile Phe Ile Ala Asp Ala Phe Thr Ala Arg Ala Phe |     |     |     |
| 1   | 5   | 10  | 15  |
| Arg Gly Asn Pro Ala Ala Val Cys Leu Leu Glu Asn Glu Leu Asp Glu |     |     |     |
|   | 20  | 25  | 30  |
| Asp Met His Gln Lys Ile Ala Arg Glu Met Asn Leu Ser Glu Thr Ala |     |     |     |
|   | 35  | 40  | 45  |
| Phe Ile Arg Lys Leu His Pro Thr Asp Asn Phe Ala Gln Ser Ser Cys |     |     |     |
|   | 50  | 55  | 60  |
| Phe Gly Leu Arg Trp Phe Thr Pro Ala Ser Glu Val Pro Leu Cys Gly |     |     |     |
| 65  | 70  | 75  | 80  |
| His Ala Thr Leu Ala Ser Ala Ala Val Leu Phe His Lys Ile Lys Asn |     |     |     |
|   | 85  | 90  | 95  |
| Met Asn Ser Thr Leu Thr Phe Val Thr Leu Ser Gly Glu Leu Arg Ala |     |     |     |
|   | 100 | 105 | 110 |
| Arg Arg Ala Glu Asp Gly Ile Val Leu Asp Leu Pro Leu Tyr Pro Ala |     |     |     |
|   | 115 | 120 | 125 |
| His Pro Gln Asp Phe His Glu Val Glu Asp Leu Ile Lys Thr Ala Ile |     |     |     |
|   | 130 | 135 | 140 |
| Gly Asn Thr Leu Val Gln Asp Ile Cys Tyr Ser Pro Asp Thr Gln Lys |     |     |     |
| 145   | 150 | 155 | 160 |
| Leu Leu Val Arg Leu Ser Asp Val Tyr Asn Arg Ser Phe Leu Glu Asn |     |     |     |
|   | 165 | 170 | 175 |
| Leu Lys Val Asn Thr Glu Asn Leu Leu Gln Val Glu Asn Thr Gly Lys |     |     |     |
|   | 180 | 185 | 190 |
| Val Lys Gly Leu Ile Leu Thr Leu Lys Gly Glu Pro Gly Gly Gln Thr |     |     |     |
|   | 195 | 200 | 205 |

Gln Ala Phe Asp Phe Tyr Ser Arg Tyr Phe Ala Pro Trp Val Gly Val  
 210 215 220  
 Ala Glu Asp Pro Val Thr Gly Ser Ala His Ala Val Leu Ser Ser Tyr  
 225 230 235 240  
 Trp Ser Gln His Leu Gly Lys Lys Glu Met His Ala Phe Gln Cys Ser  
 245 250 255  
 His Arg Gly Gly Glu Leu Gly Ile Ser Leu Arg Pro Asp Gly Arg Val  
 260 265 270  
 Asp Ile Arg Gly Gly Ala Ala Val Val Leu Glu Gly Thr Leu Thr Ala  
 275 280 285

<210> 88  
 <211> 511  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Alpha-amylase 2B precursor  
 <222> (1) .. (511)  
 <223> Accession NO: as of 29 August 2003: P19961  
 <400> 88

Met Lys Phe Phe Leu Leu Leu Phe Thr Ile Gly Phe Cys Trp Ala Gln  
 1 5 10 15  
 Tyr Ser Pro Asn Thr Gln Gln Gly Arg Thr Ser Ile Val His Leu Phe  
 20 25 30  
 Glu Trp Arg Trp Val Asp Ile Ala Leu Glu Cys Glu Arg Tyr Leu Ala  
 35 40 45  
 Pro Lys Gly Phe Gly Gly Val Gln Val Ser Pro Pro Asn Glu Asn Val  
 50 55 60  
 Ala Ile His Asn Pro Phe Arg Pro Trp Trp Glu Arg Tyr Gln Pro Val  
 65 70 75 80  
 Ser Tyr Lys Leu Cys Thr Arg Ser Gly Asn Glu Asp Glu Phe Arg Asn  
 85 90 95  
 Met Val Thr Arg Cys Asn Asn Val Gly Val Arg Ile Tyr Val Asp Ala  
 100 105 110  
 Val Ile Asn His Met Ser Gly Asn Ala Val Ser Ala Gly Thr Ser Ser  
 115 120 125  
 Thr Cys Gly Ser Tyr Phe Asn Pro Gly Ser Arg Asp Phe Pro Ala Val  
 130 135 140  
 Pro Tyr Ser Gly Trp Asp Phe Asn Asp Gly Lys Cys Lys Thr Gly Ser

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| 145   |     | 150 |     | 155 |     | 160 |
| Gly Asp Ile Glu Asn Tyr Asn Asp Ala Thr Gln Val Arg Asp Cys Arg |     |     |     |     |     |     |
|   | 165 |     | 170 |     | 175 |     |
| Leu Val Gly Leu Leu Asp Leu Ala Leu Glu Lys Asp Tyr Val Arg Ser |     |     |     |     |     |     |
|   | 180 |     | 185 |     | 190 |     |
| Lys Ile Ala Glu Tyr Met Asn His Leu Ile Asp Ile Gly Val Ala Gly |     |     |     |     |     |     |
|   | 195 |     | 200 |     | 205 |     |
| Phe Arg Leu Asp Ala Ser Lys His Met Trp Pro Gly Asp Ile Lys Ala |     |     |     |     |     |     |
|   | 210 |     | 215 |     | 220 |     |
| Ile Leu Asp Lys Leu His Asn Leu Asn Ser Asn Trp Phe Pro Ala Gly |     |     |     |     |     |     |
| 225   |     | 230 |     | 235 |     | 240 |
| Ser Lys Pro Phe Ile Tyr Gln Glu Val Ile Asp Leu Gly Gly Glu Pro |     |     |     |     |     |     |
|   | 245 |     | 250 |     | 255 |     |
| Ile Lys Ser Ser Asp Tyr Phe Gly Asn Gly Arg Val Thr Glu Phe Lys |     |     |     |     |     |     |
|   | 260 |     | 265 |     | 270 |     |
| Tyr Gly Ala Lys Leu Gly Thr Val Ile Arg Lys Trp Asn Gly Glu Lys |     |     |     |     |     |     |
|   | 275 |     | 280 |     | 285 |     |
| Met Ser Tyr Leu Lys Asn Trp Gly Glu Gly Trp Gly Phe Met Pro Ser |     |     |     |     |     |     |
|   | 290 |     | 295 |     | 300 |     |
| Asp Arg Ala Leu Val Phe Val Asp Asn His Asp Asn Gln Arg Gly His |     |     |     |     |     |     |
| 305   |     | 310 |     | 315 |     | 320 |
| Gly Ala Gly Gly Ala Ser Ile Leu Thr Phe Trp Asp Ala Arg Leu Tyr |     |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |     |
| Lys Met Ala Val Gly Phe Met Leu Ala His Pro Tyr Gly Phe Thr Arg |     |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |     |
| Val Met Ser Ser Tyr Arg Trp Pro Arg Gln Phe Gln Asn Gly Asn Asp |     |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |     |
| Val Asn Asp Trp Val Gly Pro Pro Asn Asn Asn Gly Val Ile Lys Glu |     |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |     |
| Val Thr Ile Asn Pro Asp Thr Thr Cys Gly Asn Asp Trp Val Cys Glu |     |     |     |     |     |     |
| 385   |     | 390 |     | 395 |     | 400 |
| His Arg Trp Arg Gln Ile Arg Asn Met Val Asn Phe Arg Asn Val Val |     |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |     |
| Asp Gly Gln Pro Phe Thr Asn Trp Tyr Asp Asn Gly Ser Asn Gln Val |     |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |     |
| Ala Phe Gly Arg Gly Asn Arg Gly Phe Ile Val Phe Asn Asn Asp Asp |     |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |     |
| Trp Thr Phe Ser Leu Thr Leu Gln Thr Gly Leu Pro Ala Gly Thr Tyr |     |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |     |
| Cys Asp Val Ile Ser Gly Asp Lys Ile Asn Gly Asn Cys Thr Gly Ile |     |     |     |     |     |     |
| 465   |     | 470 |     | 475 |     | 480 |

Lys Ile Tyr Val Ser Asp Asp Gly Lys Ala His Phe Ser Ile Ser Asn  
485 490 495  
Ser Ala Glu Asp Pro Phe Ile Ala Ile His Ala Glu Ser Lys Leu  
500 505 510

<210> 89  
<211> 511  
<212> PRT  
<213> Homo sapiens  
<220>  
<221> Alpha-amylase, pancreatic precursor  
<222> (1)..(511)  
<223> Accession NO: as of 29 August 2003: P04746  
<400> 89

Met Lys Phe Phe Leu Leu Leu Phe Thr Ile Gly Phe Cys Trp Ala Gln  
1 5 10 15  
Tyr Ser Pro Asn Thr Gln Gln Gly Arg Thr Ser Ile Val His Leu Phe  
20 25 30  
Glu Trp Arg Trp Val Asp Ile Ala Leu Glu Cys Glu Arg Tyr Leu Ala  
35 40 45  
Pro Lys Gly Phe Gly Gly Val Gln Val Ser Pro Pro Asn Glu Asn Val  
50 55 60  
Ala Ile Tyr Asn Pro Phe Arg Pro Trp Trp Glu Arg Tyr Gln Pro Val  
65 70 75 80  
Ser Tyr Lys Leu Cys Thr Arg Ser Gly Asn Glu Asp Glu Phe Arg Asn  
85 90 95  
Met Val Thr Arg Cys Asn Asn Val Gly Val Arg Ile Tyr Val Asp Ala  
100 105 110  
Val Ile Asn His Met Cys Gly Asn Ala Val Ser Ala Gly Thr Ser Ser  
115 120 125  
Thr Cys Gly Ser Tyr Phe Asn Pro Gly Ser Arg Asp Phe Pro Ala Val  
130 135 140  
Pro Tyr Ser Gly Trp Asp Phe Asn Asp Gly Lys Cys Lys Thr Gly Ser  
145 150 155 160  
Gly Asp Ile Glu Asn Tyr Asn Asp Ala Thr Gln Val Arg Asp Cys Arg  
165 170 175  
Leu Thr Gly Leu Leu Asp Leu Ala Leu Glu Lys Asp Tyr Val Arg Ser  
180 185 190  
Lys Ile Ala Glu Tyr Met Asn His Leu Ile Asp Ile Gly Val Ala Gly

|   |     |     |
|---|-----|-----|
| 195   | 200 | 205 |
| Phe Arg Leu Asp Ala Ser Lys His Met Trp Pro Gly Asp Ile Lys Ala |     |     |
| 210   | 215 | 220 |
| Ile Leu Asp Lys Leu His Asn Leu Asn Ser Asn Trp Phe Pro Ala Gly |     |     |
| 225   | 230 | 235 |
| Ser Lys Pro Phe Ile Tyr Gln Glu Val Ile Asp Leu Gly Gly Glu Pro |     |     |
| 245   | 250 | 255 |
| Ile Lys Ser Ser Asp Tyr Phe Gly Asn Gly Arg Val Thr Glu Phe Lys |     |     |
| 260   | 265 | 270 |
| Tyr Gly Ala Lys Leu Gly Thr Val Ile Arg Lys Trp Asn Gly Glu Lys |     |     |
| 275   | 280 | 285 |
| Met Ser Tyr Leu Lys Asn Trp Gly Glu Gly Trp Gly Phe Val Pro Ser |     |     |
| 290   | 295 | 300 |
| Asp Arg Ala Leu Val Phe Val Asp Asn His Asp Asn Gln Arg Gly His |     |     |
| 305   | 310 | 315 |
| Gly Ala Gly Gly Ala Ser Ile Leu Thr Phe Trp Asp Ala Arg Leu Tyr |     |     |
| 325   | 330 | 335 |
| Lys Met Ala Val Gly Phe Met Leu Ala His Pro Tyr Gly Phe Thr Arg |     |     |
| 340   | 345 | 350 |
| Val Met Ser Ser Tyr Arg Trp Pro Arg Gln Phe Gln Asn Gly Asn Asp |     |     |
| 355   | 360 | 365 |
| Val Asn Asp Trp Val Gly Pro Pro Asn Asn Asn Gly Val Ile Lys Glu |     |     |
| 370   | 375 | 380 |
| Val Thr Ile Asn Pro Asp Thr Thr Cys Gly Asn Asp Trp Val Cys Glu |     |     |
| 385   | 390 | 395 |
| His Arg Trp Arg Gln Ile Arg Asn Met Val Ile Phe Arg Asn Val Val |     |     |
| 405   | 410 | 415 |
| Asp Gly Gln Pro Phe Thr Asn Trp Tyr Asp Asn Gly Ser Asn Gln Val |     |     |
| 420   | 425 | 430 |
| Ala Phe Gly Arg Gly Asn Arg Gly Phe Ile Val Phe Asn Asn Asp Asp |     |     |
| 435   | 440 | 445 |
| Trp Ser Phe Ser Leu Thr Leu Gln Thr Gly Leu Pro Ala Gly Thr Tyr |     |     |
| 450   | 455 | 460 |
| Cys Asp Val Ile Ser Gly Asp Lys Ile Asn Gly Asn Cys Thr Gly Ile |     |     |
| 465   | 470 | 475 |
| Lys Ile Tyr Val Ser Asp Asp Gly Lys Ala His Phe Ser Ile Ser Asn |     |     |
| 485   | 490 | 495 |
| Ser Ala Glu Asp Pro Phe Ile Ala Ile His Ala Glu Ser Lys Leu     |     |     |
| 500   | 505 | 510 |

<210> 90  
 <211> 553  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> ATP synthase alpha chain  
 <222> (1)..(553)  
 <223> Accession NO: as of 29 August 2003: P25705  
 <400> 90

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Ser | Val | Arg | Val | Ala | Ala | Ala | Val | Val | Arg | Ala | Leu | Pro | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Ala | Gly | Leu | Val | Ser | Arg | Asn | Ala | Leu | Gly | Ser | Ser | Phe | Ile | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Arg | Asn | Phe | His | Ala | Ser | Asn | Thr | His | Leu | Gln | Lys | Thr | Gly | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Glu | Met | Ser | Ser | Ile | Leu | Glu | Glu | Arg | Ile | Leu | Gly | Ala | Asp | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Val | Asp | Leu | Glu | Glu | Thr | Gly | Arg | Val | Leu | Ser | Ile | Gly | Asp | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ile | Ala | Arg | Val | His | Gly | Leu | Arg | Asn | Val | Gln | Ala | Glu | Glu | Met | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Phe | Ser | Ser | Gly | Leu | Lys | Gly | Met | Ser | Leu | Asn | Leu | Glu | Pro | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asn | Val | Gly | Val | Val | Val | Phe | Gly | Asn | Asp | Lys | Leu | Ile | Lys | Glu | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Ile | Val | Lys | Arg | Thr | Gly | Ala | Ile | Val | Asp | Val | Pro | Val | Gly | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Leu | Leu | Gly | Arg | Val | Val | Asp | Ala | Leu | Gly | Asn | Ala | Ile | Asp | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Lys | Gly | Pro | Ile | Gly | Ser | Lys | Thr | Arg | Arg | Arg | Val | Gly | Leu | Lys | Ala |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Pro | Gly | Ile | Ile | Pro | Arg | Ile | Ser | Val | Arg | Glu | Pro | Met | Gln | Thr | Gly |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ile | Lys | Ala | Val | Asp | Ser | Leu | Val | Pro | Ile | Gly | Arg | Gly | Gln | Arg | Glu |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Ile | Ile | Gly | Asp | Arg | Gln | Thr | Gly | Lys | Thr | Ser | Ile | Ala | Ile | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Thr | Ile | Ile | Asn | Gln | Lys | Arg | Phe | Asn | Asp | Gly | Ser | Asp | Glu | Lys | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Lys | Leu | Tyr | Cys | Ile | Tyr | Val | Ala | Ile | Gly | Gln | Lys | Arg | Ser | Thr | Val |





<210> 91  
 <211> 742  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Bile-salt-activated lipase precursor  
 <222> (1)..(742)  
 <223> Accession NO: as of 29 August 2003: P19835  
 <400> 91

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Met Gly Arg Leu Gln Leu Val Val Leu Gly Leu Thr Cys Cys Trp Ala
1           5           10           15
Val Ala Ser Ala Ala Lys Leu Gly Ala Val Tyr Thr Glu Gly Gly Phe
           20           25           30
Val Glu Gly Val Asn Lys Lys Leu Gly Leu Leu Gly Asp Ser Val Asp
           35           40           45
Ile Phe Lys Gly Ile Pro Phe Ala Ala Pro Thr Lys Ala Leu Glu Asn
           50           55           60
Pro Gln Pro His Pro Gly Trp Gln Gly Thr Leu Lys Ala Lys Asn Phe
65           70           75           80
Lys Lys Arg Cys Leu Gln Ala Thr Ile Thr Gln Asp Ser Thr Tyr Gly
           85           90           95
Asp Glu Asp Cys Leu Tyr Leu Asn Ile Trp Val Pro Gln Gly Arg Lys
           100          105          110
Gln Val Ser Arg Asp Leu Pro Val Met Ile Trp Ile Tyr Gly Gly Ala
           115          120          125
Phe Leu Met Gly Ser Gly His Gly Ala Asn Phe Leu Asn Asn Tyr Leu
           130          135          140
Tyr Asp Gly Glu Glu Ile Ala Thr Arg Gly Asn Val Ile Val Val Thr
145          150          155          160
Phe Asn Tyr Arg Val Gly Pro Leu Gly Phe Leu Ser Thr Gly Asp Ala
           165          170          175
Asn Leu Pro Gly Asn Tyr Gly Leu Arg Asp Gln His Met Ala Ile Ala
           180          185          190
Trp Val Lys Arg Asn Ile Ala Ala Phe Gly Gly Asp Pro Asn Asn Ile
           195          200          205
Thr Leu Phe Gly Glu Ser Ala Gly Gly Ala Ser Val Ser Leu Gln Thr
           210          215          220
Leu Ser Pro Tyr Asn Lys Gly Leu Ile Arg Arg Ala Ile Ser Gln Ser
225          230          235          240
Gly Val Ala Leu Ser Pro Trp Val Ile Gln Lys Asn Pro Leu Phe Trp

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|                 |                 |                 |                 |     |     |
|-----------------|-----------------|-----------------|-----------------|-----|-----|
|                 | 245             |                 | 250             |     | 255 |
| Ala Lys Lys Val | Ala Glu Lys Val | Gly Cys Pro Val | Gly Asp Ala Ala |     |     |
|                 | 260             |                 | 265             |     | 270 |
| Arg Met Ala Gln | Cys Leu Lys Val | Thr Asp Pro Arg | Ala Leu Thr Leu |     |     |
|                 | 275             |                 | 280             |     | 285 |
| Ala Tyr Lys Val | Pro Leu Ala Gly | Leu Glu Tyr Pro | Met Leu His Tyr |     |     |
|                 | 290             |                 | 295             |     | 300 |
| Val Gly Phe Val | Pro Val Ile Asp | Gly Asp Phe Ile | Pro Ala Asp Pro |     |     |
| 305             |                 | 310             |                 | 315 | 320 |
| Ile Asn Leu Tyr | Ala Asn Ala Ala | Asp Ile Asp Tyr | Ile Ala Gly Thr |     |     |
|                 | 325             |                 | 330             |     | 335 |
| Asn Asn Met Asp | Gly His Ile Phe | Ala Ser Ile Asp | Met Pro Ala Ile |     |     |
|                 | 340             |                 | 345             |     | 350 |
| Asn Lys Gly Asn | Lys Lys Val Thr | Glu Glu Asp Phe | Tyr Lys Leu Val |     |     |
|                 | 355             |                 | 360             |     | 365 |
| Ser Glu Phe Thr | Ile Thr Lys Gly | Leu Arg Gly Ala | Lys Thr Thr Phe |     |     |
|                 | 370             |                 | 375             |     | 380 |
| Asp Val Tyr Thr | Glu Ser Trp Ala | Gln Asp Pro Ser | Gln Glu Asn Lys |     |     |
| 385             |                 | 390             |                 | 395 | 400 |
| Lys Lys Thr Val | Val Asp Phe Glu | Thr Asp Val Leu | Phe Leu Val Pro |     |     |
|                 | 405             |                 | 410             |     | 415 |
| Thr Glu Ile Ala | Leu Ala Gln His | Arg Ala Asn Ala | Lys Ser Ala Lys |     |     |
|                 | 420             |                 | 425             |     | 430 |
| Thr Tyr Ala Tyr | Leu Phe Ser His | Pro Ser Arg Met | Pro Val Tyr Pro |     |     |
|                 | 435             |                 | 440             |     | 445 |
| Lys Trp Val Gly | Ala Asp His Ala | Asp Asp Ile Gln | Tyr Val Phe Gly |     |     |
|                 | 450             |                 | 455             |     | 460 |
| Lys Pro Phe Ala | Thr Pro Thr Gly | Tyr Arg Pro Gln | Asp Arg Thr Val |     |     |
| 465             |                 | 470             |                 | 475 | 480 |
| Ser Lys Ala Met | Ile Ala Tyr Trp | Thr Asn Phe Ala | Lys Thr Gly Asp |     |     |
|                 | 485             |                 | 490             |     | 495 |
| Pro Asn Met Gly | Asp Ser Ala Val | Pro Thr His Trp | Glu Pro Tyr Thr |     |     |
|                 | 500             |                 | 505             |     | 510 |
| Thr Glu Asn Ser | Gly Tyr Leu Glu | Ile Thr Lys Lys | Met Gly Ser Ser |     |     |
|                 | 515             |                 | 520             |     | 525 |
| Ser Met Lys Arg | Ser Leu Arg Thr | Asn Phe Leu Arg | Tyr Trp Thr Leu |     |     |
|                 | 530             |                 | 535             |     | 540 |
| Thr Tyr Leu Ala | Leu Pro Thr Val | Thr Asp Gln Glu | Ala Thr Pro Val |     |     |
| 545             |                 | 550             |                 | 555 | 560 |
| Pro Pro Thr Gly | Asp Ser Glu Ala | Thr Pro Val Pro | Pro Thr Gly Asp |     |     |
|                 | 565             |                 | 570             |     | 575 |

Ser Glu Thr Ala Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro  
 580 585 590  
 Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly  
 595 600 605  
 Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro  
 610 615 620  
 Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr  
 625 630 635 640  
 Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly Ala  
 645 650 655  
 Pro Pro Val Pro Pro Thr Gly Asp Ala Gly Pro Pro Pro Val Pro Pro  
 660 665 670  
 Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly  
 675 680 685  
 Ala Pro Pro Val Thr Pro Thr Gly Asp Ser Glu Thr Ala Pro Val Pro  
 690 695 700  
 Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser  
 705 710 715 720  
 Glu Ala Ala Pro Val Pro Pro Thr Asp Asp Ser Lys Glu Ala Gln Met  
 725 730 735  
 Pro Ala Val Ile Arg Phe  
 740

<210> 92  
 <211> 467  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Pancreatic lipase related protein precursor  
 <222> (1)..(467)  
 <223> Accession NO: as of 29 August 2003: P54315  
 <400> 92

Met Leu Ile Phe Trp Thr Ile Thr Leu Phe Leu Leu Gly Ala Ala Lys  
 1 5 10 15  
 Gly Lys Glu Val Cys Tyr Glu Asp Leu Gly Cys Phe Ser Asp Thr Glu  
 20 25 30  
 Pro Trp Gly Gly Thr Ala Ile Arg Pro Leu Lys Ile Leu Pro Trp Ser  
 35 40 45  
 Pro Glu Lys Ile Gly Thr Arg Phe Leu Leu Tyr Thr Asn Glu Asn Pro

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 50  |     | 55  |     | 60  |
| Asn Asn Phe Gln Ile Leu Leu Leu Ser Asp Pro Ser Thr Ile Glu Ala |     |     |     |     |
| 65  |     | 70  |     | 75  |
| Ser Asn Phe Gln Met Asp Arg Lys Thr Arg Phe Ile Ile His Gly Phe |     |     |     | 80  |
|   | 85  |     | 90  | 95  |
| Ile Asp Lys Gly Asp Glu Ser Trp Val Thr Asp Met Cys Lys Lys Leu |     |     |     |     |
|   | 100 |     | 105 | 110 |
| Phe Glu Val Glu Glu Val Asn Cys Ile Cys Val Asp Trp Lys Lys Gly |     |     |     |     |
|   | 115 |     | 120 | 125 |
| Ser Gln Ala Thr Tyr Thr Gln Ala Ala Asn Asn Val Arg Val Val Gly |     |     |     |     |
|   | 130 |     | 135 | 140 |
| Ala Gln Val Ala Gln Met Leu Asp Ile Leu Leu Thr Glu Tyr Ser Tyr |     |     |     |     |
| 145   |     | 150 |     | 155 |
| Pro Pro Ser Lys Val His Leu Ile Gly His Ser Leu Gly Ala His Val |     |     |     |     |
|   | 165 |     | 170 | 175 |
| Ala Gly Glu Ala Gly Ser Lys Thr Pro Gly Leu Ser Arg Ile Thr Gly |     |     |     |     |
|   | 180 |     | 185 | 190 |
| Leu Asp Pro Val Glu Ala Ser Phe Glu Ser Thr Pro Glu Glu Val Arg |     |     |     |     |
|   | 195 |     | 200 | 205 |
| Leu Asp Pro Ser Asp Ala Asp Phe Val Asp Val Ile His Thr Asp Ala |     |     |     |     |
|   | 210 |     | 215 | 220 |
| Ala Pro Leu Ile Pro Phe Leu Gly Phe Gly Thr Asn Gln Gln Met Gly |     |     |     |     |
| 225   |     | 230 |     | 235 |
| His Leu Asp Phe Phe Pro Asn Gly Gly Glu Ser Met Pro Gly Cys Lys |     |     |     |     |
|   | 245 |     | 250 | 255 |
| Lys Asn Ala Leu Ser Gln Ile Val Asp Leu Asp Gly Ile Trp Ala Gly |     |     |     |     |
|   | 260 |     | 265 | 270 |
| Thr Arg Asp Phe Val Ala Cys Asn His Leu Arg Ser Tyr Lys Tyr Tyr |     |     |     |     |
|   | 275 |     | 280 | 285 |
| Leu Glu Ser Ile Leu Asn Pro Asp Gly Phe Ala Ala Tyr Pro Cys Thr |     |     |     |     |
|   | 290 |     | 295 | 300 |
| Ser Tyr Lys Ser Phe Glu Ser Asp Lys Cys Phe Pro Cys Pro Asp Gln |     |     |     |     |
| 305   |     | 310 |     | 315 |
| Gly Cys Pro Gln Met Gly His Tyr Ala Asp Lys Phe Ala Gly Arg Thr |     |     |     |     |
|   | 325 |     | 330 | 335 |
| Ser Glu Glu Gln Gln Lys Phe Phe Leu Asn Thr Gly Glu Ala Ser Asn |     |     |     |     |
|   | 340 |     | 345 | 350 |
| Phe Ala Arg Trp Arg Tyr Gly Val Ser Ile Thr Leu Ser Gly Arg Thr |     |     |     |     |
|   | 355 |     | 360 | 365 |
| Ala Thr Gly Gln Ile Lys Val Ala Leu Phe Gly Asn Lys Gly Asn Thr |     |     |     |     |
|   | 370 |     | 375 | 380 |



|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Ala Glu Thr Ala Phe Leu Ile Gln Ala Leu Ser Thr Gln Leu Gly Tyr |     |     |
| 145   | 150 | 155 |
| Ser Leu Glu Asp Val His Val Ile Gly His Ser Leu Gly Ala His Thr |     | 160 |
|   | 165 | 170 |
| Ala Ala Glu Ala Gly Arg Arg Leu Gly Gly Arg Val Gly Arg Ile Thr |     | 175 |
|   | 180 | 185 |
| Gly Leu Asp Pro Ala Gly Pro Cys Phe Gln Asp Glu Pro Glu Glu Val |     | 190 |
|   | 195 | 200 |
| Arg Leu Asp Pro Ser Asp Ala Val Phe Val Asp Val Ile His Thr Asp |     | 205 |
|   | 210 | 215 |
| Ser Ser Pro Ile Val Pro Ser Leu Gly Phe Gly Met Ser Gln Lys Val |     | 220 |
| 225   | 230 | 235 |
| Gly His Leu Asp Phe Phe Pro Asn Gly Gly Lys Glu Met Pro Gly Cys |     | 240 |
|   | 245 | 250 |
| Lys Lys Asn Val Leu Ser Thr Ile Thr Asp Ile Asp Gly Ile Trp Glu |     | 255 |
|   | 260 | 265 |
| Gly Ile Gly Gly Phe Val Ser Cys Asn His Leu Arg Ser Phe Glu Tyr |     | 270 |
|   | 275 | 280 |
| Tyr Ser Ser Ser Val Leu Asn Pro Asp Gly Phe Leu Gly Tyr Pro Cys |     | 285 |
|   | 290 | 295 |
| Ala Ser Tyr Asp Glu Phe Gln Glu Ser Lys Cys Phe Pro Cys Pro Ala |     | 300 |
| 305   | 310 | 315 |
| Glu Gly Cys Pro Lys Met Gly His Tyr Ala Asp Gln Phe Lys Gly Lys |     | 320 |
|   | 325 | 330 |
| Thr Ser Ala Val Glu Gln Thr Phe Phe Leu Asn Thr Gly Glu Ser Gly |     | 335 |
|   | 340 | 345 |
| Asn Phe Thr Ser Trp Arg Tyr Lys Val Ser Val Thr Leu Ser Gly Lys |     | 350 |
|   | 355 | 360 |
| Glu Lys Val Asn Gly Tyr Ile Arg Ile Ala Leu Tyr Gly Ser Asn Glu |     | 365 |
|   | 370 | 375 |
| Asn Ser Lys Gln Tyr Glu Ile Phe Lys Gly Ser Leu Lys Pro Asp Ala |     | 380 |
| 385   | 390 | 395 |
| Ser His Thr Cys Ala Ile Asp Val Asp Phe Asn Val Gly Lys Ile Gln |     | 400 |
|   | 405 | 410 |
| Lys Val Lys Phe Leu Trp Asn Lys Arg Gly Ile Asn Leu Ser Glu Pro |     | 415 |
|   | 420 | 425 |
| Lys Leu Gly Ala Ser Gln Ile Thr Val Gln Ser Gly Glu Asp Gly Thr |     | 430 |
|   | 435 | 440 |
| Glu Tyr Asn Phe Cys Ser Ser Asp Thr Val Glu Glu Asn Val Leu Gln |     | 445 |
| 450   | 455 | 460 |

Ser Leu Tyr Pro Cys  
465

<210> 94  
<211> 465  
<212> PRT  
<213> Homo sapiens  
<220>  
<221> Triacylglycerol lipase, pancreatic precursor  
<222> (1)..(465)  
<223> Accession NO: as of 29 August 2003: P16233  
<400> 94

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Pro | Leu | Trp | Thr | Leu | Ser | Leu | Leu | Leu | Gly | Ala | Val | Ala | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Lys | Glu | Val | Cys | Tyr | Glu | Arg | Leu | Gly | Cys | Phe | Ser | Asp | Asp | Ser | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Ser | Gly | Ile | Thr | Glu | Arg | Pro | Leu | His | Ile | Leu | Pro | Trp | Ser | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Asp | Val | Asn | Thr | Arg | Phe | Leu | Leu | Tyr | Thr | Asn | Glu | Asn | Pro | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Phe | Gln | Glu | Val | Ala | Ala | Asp | Ser | Ser | Ser | Ile | Ser | Gly | Ser | Asn |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Phe | Lys | Thr | Asn | Arg | Lys | Thr | Arg | Phe | Ile | Ile | His | Gly | Phe | Ile | Asp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Lys | Gly | Glu | Glu | Asn | Trp | Leu | Ala | Asn | Val | Cys | Lys | Asn | Leu | Phe | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Glu | Ser | Val | Asn | Cys | Ile | Cys | Val | Asp | Trp | Lys | Gly | Gly | Ser | Arg |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |
| Thr | Gly | Tyr | Thr | Gln | Ala | Ser | Gln | Asn | Ile | Arg | Ile | Val | Gly | Ala | Glu |
|     |     |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Val | Ala | Tyr | Phe | Val | Glu | Phe | Leu | Gln | Ser | Ala | Phe | Gly | Tyr | Ser | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ser | Asn | Val | His | Val | Ile | Gly | His | Ser | Leu | Gly | Ala | His | Ala | Ala | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Ala | Gly | Arg | Arg | Thr | Asn | Gly | Thr | Ile | Gly | Arg | Ile | Thr | Gly | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Pro | Ala | Glu | Pro | Cys | Phe | Gln | Gly | Thr | Pro | Glu | Leu | Val | Arg | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Asp | Pro | Ser | Asp | Ala | Lys | Phe | Val | Asp | Val | Ile | His | Thr | Asp | Gly | Ala |



|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 210 |     | 215 |     | 220 |     |
| Pro | Ile | Val | Pro | Asn | Leu |
|     |     |     |     |     |     |
| 225 |     | 230 |     | 235 | 240 |
| Leu | Asp | Phe | Phe | Pro | Asn |
|     |     |     |     |     |     |
|     |     | 245 |     | 250 | 255 |
| Asn | Ile | Leu | Ser | Gln | Ile |
|     |     |     |     |     |     |
|     |     | 260 |     | 265 | 270 |
| Arg | Asp | Phe | Ala | Ala | Cys |
|     |     |     |     |     |     |
|     |     | 275 |     | 280 | 285 |
| Asp | Ser | Ile | Val | Asn | Pro |
|     |     |     |     |     |     |
| 290 |     | 295 |     | 300 |     |
| Tyr | Asn | Val | Phe | Thr | Ala |
|     |     |     |     |     |     |
| 305 |     | 310 |     | 315 | 320 |
| Cys | Pro | Gln | Met | Gly | His |
|     |     |     |     |     |     |
|     |     | 325 |     | 330 | 335 |
| Asp | Val | Gly | Gln | Lys | Phe |
|     |     |     |     |     |     |
|     |     | 340 |     | 345 | 350 |
| Ala | Arg | Trp | Arg | Tyr | Lys |
|     |     |     |     |     |     |
| 355 |     | 360 |     | 365 |     |
| Thr | Gly | His | Ile | Leu | Val |
|     |     |     |     |     |     |
| 370 |     | 375 |     | 380 |     |
| Gln | Tyr | Glu | Ile | Phe | Lys |
|     |     |     |     |     |     |
| 385 |     | 390 |     | 395 | 400 |
| Asn | Glu | Phe | Asp | Ser | Asp |
|     |     |     |     |     |     |
|     |     | 405 |     | 410 | 415 |
| Phe | Ile | Trp | Tyr | Asn | Asn |
|     |     |     |     |     |     |
|     |     | 420 |     | 425 | 430 |
| Ala | Ser | Lys | Ile | Ile | Val |
|     |     |     |     |     |     |
| 435 |     | 440 |     | 445 |     |
| Cys | Ser | Pro | Glu | Thr | Val |
|     |     |     |     |     |     |
| 450 |     | 455 |     | 460 |     |
|     |     |     |     |     |     |
| Cys |     |     |     |     |     |
| 465 |     |     |     |     |     |

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 <213> Homo sapiens  
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<222> (1) .. (572)

<223> Accession NO: as of 29 August 2003: Q16555

<400> 95

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Ala Asp Ile Tyr Met Glu Asp Gly Leu Ile Lys Gln Ile Gly Glu Asn
          35           40           45
Leu Ile Val Pro Gly Gly Val Lys Thr Ile Glu Ala His Ser Arg Met
          50           55           60
Val Ile Pro Gly Gly Ile Asp Val His Thr Arg Phe Gln Met Pro Asp
65           70           75           80
Gln Gly Met Thr Ser Ala Asp Asp Phe Phe Gln Gly Thr Lys Ala Ala
          85           90           95
Leu Ala Gly Gly Thr Thr Met Ile Ile Asp His Val Val Pro Glu Pro
          100          105          110
Gly Thr Ser Leu Leu Ala Ala Phe Asp Gln Trp Arg Glu Trp Ala Asp
          115          120          125
Ser Lys Ser Cys Cys Asp Tyr Ser Leu His Val Asp Ile Ser Glu Trp
          130          135          140
His Lys Gly Ile Gln Glu Glu Met Glu Ala Leu Val Lys Asp His Gly
145           150           155           160
Val Asn Ser Phe Leu Val Tyr Met Ala Phe Lys Asp Arg Phe Gln Leu
          165          170          175
Thr Asp Cys Gln Ile Tyr Glu Val Leu Ser Val Ile Arg Asp Ile Gly
          180          185          190
Ala Ile Ala Gln Val His Ala Glu Asn Gly Asp Ile Ile Ala Glu Glu
          195          200          205
Gln Gln Arg Ile Leu Asp Leu Gly Ile Thr Gly Pro Glu Gly His Val
          210          215          220
Leu Ser Arg Pro Glu Glu Val Glu Ala Glu Ala Val Asn Arg Ala Ile
225           230           235           240
Thr Ile Ala Asn Gln Thr Asn Cys Pro Leu Tyr Ile Thr Lys Val Met
          245          250          255
Ser Lys Ser Ser Ala Glu Val Ile Ala Gln Ala Arg Lys Lys Gly Thr
          260          265          270
Val Val Tyr Gly Glu Pro Ile Thr Ala Ser Leu Gly Thr Asp Gly Ser
          275          280          285
His Tyr Trp Ser Lys Asn Trp Ala Lys Ala Ala Ala Phe Val Thr Ser
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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 290 |     | 295 |     | 300 |     |     |     |     |     |     |     |     |     |     |     |
| Pro | Pro | Leu | Ser | Pro | Asp | Pro | Thr | Thr | Pro | Asp | Phe | Leu | Asn | Ser | Leu |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |
| Leu | Ser | Cys | Gly | Asp | Leu | Gln | Val | Thr | Gly | Ser | Ala | His | Cys | Thr | Phe |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Asn | Thr | Ala | Gln | Lys | Ala | Val | Gly | Lys | Asp | Asn | Phe | Thr | Leu | Ile | Pro |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Glu | Gly | Thr | Asn | Gly | Thr | Glu | Glu | Arg | Met | Ser | Val | Ile | Trp | Asp | Lys |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ala | Val | Val | Thr | Gly | Lys | Met | Asp | Glu | Asn | Gln | Phe | Val | Ala | Val | Thr |
| 370 |     |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |
| Ser | Thr | Asn | Ala | Ala | Lys | Val | Phe | Asn | Leu | Tyr | Pro | Arg | Lys | Gly | Arg |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |     |
| Ile | Ala | Val | Gly | Ser | Asp | Ala | Asp | Leu | Val | Ile | Trp | Asp | Pro | Asp | Ser |
|     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |     |
| Val | Lys | Thr | Ile | Ser | Ala | Lys | Thr | His | Asn | Ser | Ser | Leu | Glu | Tyr | Asn |
|     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |     |
| Ile | Phe | Glu | Gly | Met | Glu | Cys | Arg | Gly | Ser | Pro | Leu | Val | Val | Ile | Ser |
|     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |     |
| Gln | Gly | Lys | Ile | Val | Leu | Glu | Asp | Gly | Thr | Leu | His | Val | Thr | Glu | Gly |
| 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |     |
| Ser | Gly | Arg | Tyr | Ile | Pro | Arg | Lys | Pro | Phe | Pro | Asp | Phe | Val | Tyr | Lys |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     | 480 |     |
| Arg | Ile | Lys | Ala | Arg | Ser | Arg | Leu | Ala | Glu | Leu | Arg | Gly | Val | Pro | Arg |
|     |     | 485 |     |     |     |     | 490 |     |     |     | 495 |     |     |     |     |
| Gly | Leu | Tyr | Asp | Gly | Pro | Val | Cys | Glu | Val | Ser | Val | Thr | Pro | Lys | Thr |
|     | 500 |     |     |     |     |     | 505 |     |     |     | 510 |     |     |     |     |
| Val | Thr | Pro | Ala | Ser | Ser | Ala | Lys | Thr | Ser | Pro | Ala | Lys | Gln | Gln | Ala |
|     | 515 |     |     |     |     |     | 520 |     |     |     | 525 |     |     |     |     |
| Pro | Pro | Val | Arg | Asn | Leu | His | Gln | Ser | Gly | Phe | Ser | Leu | Ser | Gly | Ala |
|     | 530 |     |     |     |     | 535 |     |     |     | 540 |     |     |     |     |     |
| Gln | Ile | Asp | Asp | Asn | Ile | Pro | Arg | Arg | Thr | Thr | Gln | Arg | Ile | Val | Ala |
| 545 |     |     |     | 550 |     |     |     |     | 555 |     |     |     | 560 |     |     |
| Pro | Pro | Gly | Gly | Arg | Ala | Asn | Ile | Thr | Ser | Leu | Gly |     |     |     |     |
|     |     | 325 |     |     |     | 570 |     |     |     |     |     |     |     |     |     |

<210> 96  
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 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> 4-aminobutyrate aminotransferase, mitochondrial precursor  
 <222> (1)..(500)  
 <223> Accession NO: as of 29 August 2003: P80404  
 <400> 96

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Thr Tyr Arg Leu Leu Val Pro Gly Ser Arg His Ile Ser Gln Ala Ala
              20              25              30
Ala Lys Val Asp Val Glu Phe Asp Tyr Asp Gly Pro Leu Met Lys Thr
              35              40              45
Glu Val Pro Gly Pro Arg Ser Gln Glu Leu Met Lys Gln Leu Asn Ile
              50              55              60
Ile Gln Asn Ala Glu Ala Val His Phe Phe Cys Asn Tyr Glu Glu Ser
65              70              75              80
Arg Gly Asn Tyr Leu Val Asp Val Asp Gly Asn Arg Met Leu Asp Leu
              85              90              95
Tyr Ser Gln Ile Ser Ser Val Pro Ile Gly Tyr Ser Asp Pro Ala Leu
              100             105             110
Val Lys Leu Ile Gln Gln Pro Gln Asn Ala Ser Met Phe Val Asn Arg
              115             120             125
Pro Ala Leu Glu Ile Leu Pro Pro Glu Asn Phe Val Glu Lys Leu Arg
              130             135             140
Gln Ser Leu Leu Ser Val Ala Pro Lys Gly Met Ser Gln Leu Ile Thr
145             150             155             160
Met Ala Cys Gly Ser Cys Ser Asn Glu Asn Ala Leu Lys Thr Ile Phe
              165             170             175
Met Trp Tyr Arg Ser Lys Glu Arg Gly Gln Arg Gly Phe Ser Lys Glu
              180             185             190
Glu Leu Glu Thr Cys Met Ile Asn Gln Ala Pro Trp Cys Pro Asp Tyr
              195             200             205
Ser Ile Leu Ser Phe Met Gly Ser Phe His Gly Arg Thr Met Gly Cys
              210             215             220
Leu Ala Thr Thr His Ser Lys Ala Ile His Lys Ile Asp Ile Pro Ser
225             230             235             240
Phe Asp Trp Pro Ile Ala Pro Phe Pro Arg Leu Lys Tyr Pro Leu Glu
              245             250             255
Glu Phe Val Lys Glu Asn Gln Gln Glu Glu Ala Gly Cys Leu Glu Glu
              260             265             270
Val Glu Asp Leu Ile Val Lys Tyr Arg Lys Lys Lys Lys Thr Val Ala
  
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|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| Gly Ile Ile Val Glu Pro Ile Gln Ser Glu Gly Gly Asp Asn His Ala |     |     |
| 290   | 295 | 300 |
| Ser Asp Asp Phe Phe Arg Lys Leu Arg Asp Ile Ala Arg Lys His Cys |     |     |
| 305   | 310 | 315 |
| Cys Ala Phe Leu Val Asp Glu Val Gln Thr Gly Gly Gly Cys Thr Gly |     |     |
| 325   | 330 | 335 |
| Lys Phe Trp Ala His Glu His Trp Gly Leu Asp Asp Pro Ala Asp Val |     |     |
| 340   | 345 | 350 |
| Met Thr Phe Ser Lys Lys Met Met Thr Gly Gly Phe Phe Leu Lys Glu |     |     |
| 355   | 360 | 365 |
| Glu Phe Arg Pro Asn Ala Pro Tyr Arg Ile Phe Asn Thr Trp Leu Gly |     |     |
| 370   | 375 | 380 |
| Asp Pro Ser Lys Asn Leu Leu Leu Ala Glu Val Ile Asn Ile Ile Lys |     |     |
| 385   | 390 | 395 |
| Arg Glu Asp Leu Leu Asn Asn Ala Ala His Ala Gly Lys Ala Leu Leu |     |     |
| 405   | 410 | 415 |
| Thr Gly Leu Leu Asp Leu Gln Ala Arg Tyr Pro Gln Phe Ile Ser Arg |     |     |
| 420   | 425 | 430 |
| Val Arg Gly Arg Gly Thr Phe Cys Ser Phe Asp Thr Pro Asp Asp Ser |     |     |
| 435   | 440 | 445 |
| Ile Arg Asn Lys Leu Ile Leu Ile Ala Arg Asn Lys Gly Val Val Leu |     |     |
| 450   | 455 | 460 |
| Gly Gly Cys Gly Asp Lys Ser Ile Arg Phe Arg Pro Thr Leu Val Phe |     |     |
| 465   | 470 | 475 |
| Arg Asp His His Ala His Leu Phe Leu Asn Ile Phe Ser Asp Ile Leu |     |     |
| 485   | 490 | 495 |
| Ala Asp Phe Lys   |     |     |
| 500   |     |     |

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 <221> Glycine amidiontransferase, mitochondrial precursor  
 <222> (1)..(423)  
 <223> Accession NO: as of 29 August 2003: P50440  
 <400> 97

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Arg | Val | Arg | Cys | Leu | Arg | Gly | Gly | Ser | Arg | Gly | Ala | Glu | Ala | 1   | 5   | 10  | 15  |
| Val | His | Tyr | Ile | Gly | Ser | Arg | Leu | Gly | Arg | Thr | Leu | Thr | Gly | Trp | Val | 20  | 25  | 30  |     |
| Gln | Arg | Thr | Phe | Gln | Ser | Thr | Gln | Ala | Ala | Thr | Ala | Ser | Ser | Arg | Asn | 35  | 40  | 45  |     |
| Ser | Cys | Ala | Ala | Asp | Asp | Lys | Ala | Thr | Glu | Pro | Leu | Pro | Lys | Asp | Cys | 50  | 55  | 60  |     |
| Pro | Val | Ser | Ser | Tyr | Asn | Glu | Trp | Asp | Pro | Leu | Glu | Glu | Val | Ile | Val | 65  | 70  | 75  | 80  |
| Gly | Arg | Ala | Glu | Asn | Ala | Cys | Val | Pro | Pro | Phe | Thr | Ile | Glu | Val | Lys | 85  | 90  | 95  |     |
| Ala | Asn | Thr | Tyr | Glu | Lys | Tyr | Trp | Pro | Phe | Tyr | Gln | Lys | Gln | Gly | Gly | 100 | 105 | 110 |     |
| His | Tyr | Phe | Pro | Lys | Asp | His | Leu | Lys | Lys | Ala | Val | Ala | Glu | Ile | Glu | 115 | 120 | 125 |     |
| Glu | Met | Cys | Asn | Ile | Leu | Lys | Thr | Glu | Gly | Val | Thr | Val | Arg | Arg | Pro | 130 | 135 | 140 |     |
| Asp | Pro | Ile | Asp | Trp | Ser | Leu | Lys | Tyr | Lys | Thr | Pro | Asp | Phe | Glu | Ser | 145 | 150 | 155 | 160 |
| Thr | Gly | Leu | Tyr | Ser | Ala | Met | Pro | Arg | Asp | Ile | Leu | Ile | Val | Val | Gly | 165 | 170 | 175 |     |
| Asn | Glu | Ile | Ile | Glu | Ala | Pro | Met | Ala | Trp | Arg | Ser | Arg | Phe | Phe | Glu | 180 | 185 | 190 |     |
| Tyr | Arg | Ala | Tyr | Arg | Ser | Ile | Ile | Lys | Asp | Tyr | Phe | His | Arg | Gly | Ala | 195 | 200 | 205 |     |
| Lys | Trp | Thr | Thr | Ala | Pro | Lys | Pro | Thr | Met | Ala | Asp | Glu | Leu | Tyr | Asn | 210 | 215 | 220 |     |
| Gln | Asp | Tyr | Pro | Ile | His | Ser | Val | Glu | Asp | Arg | His | Lys | Leu | Ala | Ala | 225 | 230 | 235 | 240 |
| Gln | Gly | Lys | Phe | Val | Thr | Thr | Glu | Phe | Glu | Pro | Cys | Phe | Asp | Ala | Ala | 245 | 250 | 255 |     |
| Asp | Phe | Ile | Arg | Ala | Gly | Arg | Asp | Ile | Phe | Ala | Gln | Arg | Ser | Gln | Val | 260 | 265 | 270 |     |
| Thr | Asn | Tyr | Leu | Gly | Ile | Glu | Trp | Met | Arg | Arg | His | Leu | Ala | Pro | Asp | 275 | 280 | 285 |     |
| Tyr | Arg | Val | His | Ile | Ile | Ser | Phe | Lys | Asp | Pro | Asn | Pro | Met | His | Ile | 290 | 295 | 300 |     |
| Asp | Ala | Thr | Phe | Asn | Ile | Ile | Gly | Pro | Gly | Ile | Val | Leu | Ser | Asn | Pro | 305 | 310 | 315 | 320 |
| Asp | Arg | Pro | Cys | His | Gln | Ile | Asp | Leu | Phe | Lys | Lys | Ala | Gly | Trp | Thr |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
|     |     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     |     | 335 |  |  |  |
| Ile | Ile | Thr | Pro | Pro | Thr | Pro | Ile | Ile | Pro | Asp | Asp | His | Pro | Leu | Trp |     |  |  |  |
|     |     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |  |
| Met | Ser | Ser | Lys | Trp | Leu | Ser | Met | Asn | Val | Leu | Met | Leu | Asp | Glu | Lys |     |  |  |  |
|     |     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |  |
| Arg | Val | Met | Val | Asp | Ala | Asn | Glu | Val | Pro | Ile | Gln | Lys | Met | Phe | Glu |     |  |  |  |
|     |     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |  |
| Lys | Leu | Gly | Ile | Thr | Thr | Ile | Lys | Val | Asn | Ile | Arg | Asn | Ala | Asn | Ser |     |  |  |  |
| 385 |     |     |     |     |     | 390 |     |     |     | 395 |     |     |     |     | 400 |     |  |  |  |
| Leu | Gly | Gly | Gly | Phe | His | Cys | Trp | Thr | Cys | Asp | Val | Arg | Arg | Arg | Gly |     |  |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |  |  |  |
| Thr | Leu | Gln | Ser | Tyr | Leu | Asp |     |     |     |     |     |     |     |     |     |     |  |  |  |
|     |     |     |     | 420 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |

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<210> 98
<211> 654
<212> PRT
<213> Homo sapiens
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<221> GRP 78
<222> (1)..(654)
<223> Accession NO: as of 29 August 2003: P11021
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<222> (461)..(461)
<223> Xaa can be any naturally occurring amino acid
<400> 98

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Ser | Leu | Val | Ala | Ala | Met | Leu | Leu | Leu | Leu | Leu | Ser | Ala | 1   | 5   | 10  | 15  |
| Ala | Arg | Ala | Lys | Glu | Glu | Asp | Met | Gly | Thr | Val | Val | Ala | Ile | His | Leu | 20  | 25  | 30  |     |
| Gly | Thr | Thr | Tyr | Pro | Cys | Val | Gly | Val | Phe | Lys | Asn | Gly | Arg | Met | Glu | 35  | 40  | 45  |     |
| Ile | Ile | Ala | Asn | Asp | Gln | Gly | Asn | Arg | Ile | Met | Pro | Ser | Tyr | Val | Ala | 50  | 55  | 60  |     |
| Phe | Thr | Pro | Glu | Gly | Glu | Cys | Leu | Ile | Gly | Asp | Ala | Ala | Lys | Asn | Gln | 65  | 70  | 75  | 80  |
| Leu | Thr | Ser | Asn | Pro | Lys | Asn | Thr | Val | Phe | Asp | Ala | Lys | Arg | Leu | Ile | 85  | 90  | 95  |     |
| Gly | Arg | Arg | Trp | His | Asp | Pro | Ser | Val | Gln | Gln | Asp | Ile | Glu | Phe | Leu | 100 | 105 | 110 |     |
| Pro | Phe | Lys | Val | Val | Glu | Lys | Asn | Thr | Lys | Ser | Tyr | Ile | Gln | Ile | Asp | 115 | 120 | 125 |     |
| Val | Gly | Gly | Gly | Gln | Thr | Lys | Thr | Phe | Ala | Pro | Lys | Glu | Ile | Ser | Ala | 130 | 135 | 140 |     |
| Met | Val | Leu | Thr | Lys | Met | Lys | Glu | Asn | Ala | Glu | Ala | Tyr | Leu | Gly | Lys | 145 | 150 | 155 | 160 |
| Val | Thr | His | Ala | Val | Val | Thr | Ala | Pro | Ala | Tyr | Phe | Asn | Asp | Ala | Gln | 165 | 170 | 175 |     |
| Cys | Gln | Ala | Thr | Lys | Asp | Ala | Gly | Thr | Ile | Ala | Asp | Leu | Asn | Val | Met | 180 | 185 | 190 |     |
| Arg | Ile | Ile | Asn | Lys | Pro | Thr | Ala | Ala | Ala | Ile | Ala | Tyr | Gly | Leu | Asp | 195 | 200 | 205 |     |
| Lys | Arg | Glu | Gly | Glu | Lys | Asn | Ile | Leu | Val | Phe | Asp | Leu | Gly | Gly | Gly | 210 | 215 | 220 |     |
| Thr | Phe | Asp | Val | Ser | Leu | Leu | Thr | Ile | Asp | Asn | Gly | Val | Phe | Lys | Val | 225 | 230 | 235 | 240 |
| Val | Ala | Thr | Asn | Gly | Asp | Thr | Tyr | Leu | Gly | Gly | Glu | Asp | Phe | Asp | Gln | 245 | 250 | 255 |     |
| Arg | Val | Met | Glu | His | Phe | Ile | Lys | Leu | Tyr | Lys | Lys | Lys | Thr | Gly | Lys | 260 | 265 | 270 |     |
| Asp | Val | Arg | Lys | Asp | Asn | Arg | Ala | Val | Gln | Lys | Leu | Trp | Arg | Lys | Val | 275 | 280 | 285 |     |
| Glu | Lys | Ala | Lys | Arg | Ala | Leu | Ser | Ser | Gln | His | Gln | Ala | Xaa | Val | Ile | 290 | 295 | 300 |     |
| Glu | Ile | Glu | Ser | Phe | Tyr | Glu | Gly | Glu | Asp | Phe | Ser | Glu | Thr | Leu | Thr | 305 | 310 | 315 | 320 |
| Gln | Ala | Lys | Phe | Glu | Glu | Leu | Asn | Xaa | Asp | Leu | Phe | Gln | Ser | Thr | Met |     |     |     |     |



|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 325 |     | 330 |     | 335 |
| Lys Pro Ser Gln Arg Ser Val Xaa Lys Val Leu Glu Asp Ser Asp Leu |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |
| Lys Lys Ser Asp Ile Asp Glu Thr Val Leu Val Gly Gly Phe Thr Gln |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |
| Ile Pro Lys Ile Gln Gln Leu Val Lys Glu Phe Phe Asn Gly Lys Glu |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |
| Leu Ser Arg Gly Ile Ser Pro Tyr Glu Ala Val Ala Tyr Gly Ala Ala |     |     |     |     |     |
| 385   |     | 390 |     | 395 | 400 |
| Val Gln Ala Gly Val Leu Ser Gly Asp Gln Asp Thr Gly Asp Leu Val |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |
| Leu Leu Asp Ile Cys Pro Leu Thr Leu Gly Ile Glu Thr Val Gly Gly |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |
| Val Met Thr Lys Leu Ile Pro Arg Asn Thr Val Val Pro Thr Lys Lys |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |
| Ser Gln Ile Phe Ser Thr Ala Phe Asp Asn Gln Pro Xaa Thr Ile Lys |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |
| Val Tyr Glu Gly Lys Gln Pro Leu Thr Lys Asp Asn His Leu Leu Gly |     |     |     |     |     |
| 465   |     | 470 |     | 475 | 480 |
| Thr Phe Asp Leu Thr Gly Ile Pro Pro Ala Pro Cys Gly Val Pro Gln |     |     |     |     |     |
|   | 485 |     | 490 |     | 495 |
| Ile Glu Val Thr Phe Glu Met Asp Val Ser Asp Ile Leu Gln Val Thr |     |     |     |     |     |
|   | 500 |     | 505 |     | 510 |
| Ala Lys Asp Lys Gly Thr Arg Tyr Lys Asn Lys Ile Thr Ile Thr Asn |     |     |     |     |     |
|   | 515 |     | 520 |     | 525 |
| Asp Gln Asn His Leu Thr Pro Glu Asp Ile Glu Arg Met Val Asn Asp |     |     |     |     |     |
|   | 530 |     | 535 |     | 540 |
| Ala Glu Lys Phe Ala Glu Glu Asp Lys Lys Leu Lys Glu Cys Thr Asp |     |     |     |     |     |
| 545   |     | 550 |     | 555 | 560 |
| Thr Arg Asn Glu Leu Glu Ser Tyr Ala Tyr Ser Leu Lys Asn Gln Ile |     |     |     |     |     |
|   | 565 |     | 570 |     | 575 |
| Gly Asp Lys Glu Lys Leu Gly Gly Lys Leu Ser Ser Glu Asp Lys Glu |     |     |     |     |     |
|   | 580 |     | 585 |     | 590 |
| Thr Met Glu Lys Thr Val Glu Glu Lys Thr Glu Trp Leu Glu Ser His |     |     |     |     |     |
|   | 595 |     | 600 |     | 605 |
| Gln Asp Ala Asp Thr Glu Asp Phe Lys Ala Lys Lys Lys Glu Leu Glu |     |     |     |     |     |
|   | 610 |     | 615 |     | 620 |
| Glu Ile Val Gln Pro Ile Ile Ser Lys Leu Tyr Gly Ser Ala Gly Pro |     |     |     |     |     |
| 625   |     | 630 |     | 635 | 640 |
| Pro Pro Thr Gly Glu Glu Asp Thr Ala Glu Lys Asp Glu Leu         |     |     |     |     |     |
|   | 325 |     | 650 |     |     |

<210> 99  
 <211> 325  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Eukaryotic translation initiation factor 3 subunit 2  
 <222> (1)..(325)  
 <223> Accession NO: as of 29 August 2003: Q13347  
 <400> 99

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Met Lys Pro Ile Leu Leu Gln Gly His Glu Arg Ser Ile Thr Gln Ile
1              5              10              15
Lys Tyr Asn Arg Glu Gly Asp Leu Leu Phe Thr Val Ala Lys Asp Pro
              20              25              30
Ile Val Asn Val Trp Tyr Ser Val Asn Gly Glu Arg Leu Gly Thr Tyr
              35              40              45
Met Gly His Thr Gly Ala Val Trp Cys Val Asp Ala Asp Trp Asp Thr
              50              55              60
Lys His Val Leu Thr Gly Ser Ala Asp Asn Ser Cys Arg Leu Trp Asp
65              70              75              80
Cys Glu Thr Gly Lys Gln Leu Ala Leu Leu Lys Thr Asn Ser Ala Val
              85              90              95
Arg Thr Cys Gly Phe Asp Phe Gly Gly Asn Ile Ile Met Phe Ser Thr
              100             105             110
Asp Lys Gln Met Gly Tyr Gln Cys Phe Val Ser Phe Phe Asp Leu Arg
              115             120             125
Asp Pro Ser Gln Ile Asp Asn Asn Glu Pro Tyr Met Lys Ile Pro Cys
              130             135             140
Asn Asp Ser Lys Ile Thr Ser Ala Val Trp Gly Pro Leu Gly Glu Cys
145             150             155             160
Ile Ile Ala Gly His Glu Ser Gly Glu Leu Asn Gln Tyr Ser Ala Lys
              165             170             175
Ser Gly Glu Val Leu Val Asn Val Lys Glu His Ser Arg Gln Ile Asn
              180             185             190
Asp Ile Gln Leu Ser Arg Asp Met Thr Met Phe Val Thr Ala Ser Lys
              195             200             205
Asp Asn Thr Ala Lys Leu Phe Asp Ser Thr Thr Leu Glu His Gln Lys
              210             215             220
Thr Phe Arg Thr Glu Arg Pro Val Asn Ser Ala Ala Leu Ser Pro Asn

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225                      230                      235                      240  
 Tyr Asp His Val Val Leu Gly Gly Gly Gln Glu Ala Met Asp Val Thr  
                                  245                      250                      255  
 Thr Thr Ser Thr Arg Ile Gly Lys Phe Glu Ala Arg Phe Phe His Leu  
                                  260                      265                      270  
 Ala Phe Glu Glu Glu Phe Gly Arg Val Lys Gly His Phe Gly Pro Ile  
                                  275                      280                      285  
 Asn Ser Val Ala Phe His Pro Asp Gly Lys Ser Tyr Ser Ser Gly Gly  
                                  290                      295                      300  
 Glu Asp Gly Tyr Val Arg Ile His Tyr Phe Asp Pro Gln Tyr Phe Glu  
 305                      310                      315                      320  
 Phe Glu Phe Glu Ala  
                                  325

<210> 100  
 <211> 572  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Dihydropyrimidinase related protein-2  
 <222> (1)..(572)  
 <223> Accession NO: as of 29 August 2003: Q16555  
 <400> 100

Met Ser Tyr Gln Gly Lys Lys Asn Ile Pro Arg Ile Thr Ser Asp Arg  
 1                      5                      10                      15  
 Leu Leu Ile Lys Gly Gly Lys Ile Val Asn Asp Asp Gln Ser Phe Tyr  
                                  20                      25                      30  
 Ala Asp Ile Tyr Met Glu Asp Gly Leu Ile Lys Gln Ile Gly Glu Asn  
                                  35                      40                      45  
 Leu Ile Val Pro Gly Gly Val Lys Thr Ile Glu Ala His Ser Arg Met  
                                  50                      55                      60  
 Val Ile Pro Gly Gly Ile Asp Val His Thr Arg Phe Gln Met Pro Asp  
 65                      70                      75                      80  
 Gln Gly Met Thr Ser Ala Asp Asp Phe Phe Gln Gly Thr Lys Ala Ala  
                                  85                      90                      95  
 Leu Ala Gly Gly Thr Thr Met Ile Ile Asp His Val Val Pro Glu Pro  
                                  100                      105                      110  
 Gly Thr Ser Leu Leu Ala Ala Phe Asp Gln Trp Arg Glu Trp Ala Asp  
                                  115                      120                      125

Ser Lys Ser Cys Cys Asp Tyr Ser Leu His Val Asp Ile Ser Glu Trp  
 130 135 140  
 His Lys Gly Ile Gln Glu Glu Met Glu Ala Leu Val Lys Asp His Gly  
 145 150 155 160  
 Val Asn Ser Phe Leu Val Tyr Met Ala Phe Lys Asp Arg Phe Gln Leu  
 165 170 175  
 Thr Asp Cys Gln Ile Tyr Glu Val Leu Ser Val Ile Arg Asp Ile Gly  
 180 185 190  
 Ala Ile Ala Gln Val His Ala Glu Asn Gly Asp Ile Ile Ala Glu Glu  
 195 200 205  
 Gln Gln Arg Ile Leu Asp Leu Gly Ile Thr Gly Pro Glu Gly His Val  
 210 215 220  
 Leu Ser Arg Pro Glu Glu Val Glu Ala Glu Ala Val Asn Arg Ala Ile  
 225 230 235 240  
 Thr Ile Ala Asn Gln Thr Asn Cys Pro Leu Tyr Ile Thr Lys Val Met  
 245 250 255  
 Ser Lys Ser Ser Ala Glu Val Ile Ala Gln Ala Arg Lys Lys Gly Thr  
 260 265 270  
 Val Val Tyr Gly Glu Pro Ile Thr Ala Ser Leu Gly Thr Asp Gly Ser  
 275 280 285  
 His Tyr Trp Ser Lys Asn Trp Ala Lys Ala Ala Ala Phe Val Thr Ser  
 290 295 300  
 Pro Pro Leu Ser Pro Asp Pro Thr Thr Pro Asp Phe Leu Asn Ser Leu  
 305 310 315 320  
 Leu Ser Cys Gly Asp Leu Gln Val Thr Gly Ser Ala His Cys Thr Phe  
 325 330 335  
 Asn Thr Ala Gln Lys Ala Val Gly Lys Asp Asn Phe Thr Leu Ile Pro  
 340 345 350  
 Glu Gly Thr Asn Gly Thr Glu Glu Arg Met Ser Val Ile Trp Asp Lys  
 355 360 365  
 Ala Val Val Thr Gly Lys Met Asp Glu Asn Gln Phe Val Ala Val Thr  
 370 375 380  
 Ser Thr Asn Ala Ala Lys Val Phe Asn Leu Tyr Pro Arg Lys Gly Arg  
 385 390 395 400  
 Ile Ala Val Gly Ser Asp Ala Asp Leu Val Ile Trp Asp Pro Asp Ser  
 405 410 415  
 Val Lys Thr Ile Ser Ala Lys Thr His Asn Ser Ser Leu Glu Tyr Asn  
 420 425 430  
 Ile Phe Glu Gly Met Glu Cys Arg Gly Ser Pro Leu Val Val Ile Ser  
 435 440 445  
 Gln Gly Lys Ile Val Leu Glu Asp Gly Thr Leu His Val Thr Glu Gly

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      450              455              460
Ser Gly Arg Tyr Ile Pro Arg Lys Pro Phe Pro Asp Phe Val Tyr Lys
465              470              475              480
Arg Ile Lys Ala Arg Ser Arg Leu Ala Glu Leu Arg Gly Val Pro Arg
      485              490              495
Gly Leu Tyr Asp Gly Pro Val Cys Glu Val Ser Val Thr Pro Lys Thr
      500              505              510
Val Thr Pro Ala Ser Ser Ala Lys Thr Ser Pro Ala Lys Gln Gln Ala
      515              520              525
Pro Pro Val Arg Asn Leu His Gln Ser Gly Phe Ser Leu Ser Gly Ala
      530              535              540
Gln Ile Asp Asp Asn Ile Pro Arg Arg Thr Thr Gln Arg Ile Val Ala
545              550              555              560
Pro Pro Gly Gly Arg Ala Asn Ile Thr Ser Leu Gly
      325      570

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<210> 101
<211> 561
<212> PRT
<213> Homo sapiens
<220>
<221> Phosphoglucomutase (EC 5.4.2.2) (Glucose phosphomutase) (PGM)
<222> (1)..(561)
<223> Accession NO: as of 29 August 2003: P36871
<400> 101

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Val Lys Ile Val Thr Val Lys Thr Gln Ala Tyr Gln Asp Gln Lys Pro
1              5              10              15
Gly Thr Ser Gly Leu Arg Lys Arg Val Lys Val Phe Gln Ser Ser Ala
      20              25              30
Asn Tyr Ala Glu Asn Phe Ile Gln Ser Ile Ile Ser Thr Val Glu Pro
      35              40              45
Ala Gln Arg Gln Glu Ala Thr Leu Val Val Gly Gly Asp Gly Arg Phe
      50              55              60
Tyr Met Lys Glu Ala Ile Gln Leu Ile Ala Arg Ile Ala Ala Ala Asn
65              70              75              80
Gly Ile Gly Arg Leu Val Ile Gly Gln Asn Gly Ile Leu Ser Thr Pro
      85              90              95
Ala Val Ser Cys Ile Ile Arg Lys Ile Lys Ala Ile Gly Gly Ile Ile
      100              105              110

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Leu Thr Ala Ser His Asn Pro Gly Gly Pro Asn Gly Asp Phe Gly Ile  
 115 120 125  
 Lys Phe Asn Ile Ser Asn Gly Gly Pro Ala Pro Glu Ala Ile Thr Asp  
 130 135 140  
 Lys Ile Phe Gln Ile Ser Lys Thr Ile Glu Glu Tyr Ala Val Cys Pro  
 145 150 155 160  
 Asp Leu Lys Val Asp Leu Gly Val Leu Gly Lys Gln Gln Phe Asp Leu  
 165 170 175  
 Glu Asn Lys Phe Lys Pro Phe Thr Val Glu Ile Val Asp Ser Val Glu  
 180 185 190  
 Ala Tyr Ala Thr Met Leu Arg Ser Ile Phe Asp Phe Ser Ala Leu Lys  
 195 200 205  
 Glu Leu Leu Ser Gly Pro Asn Arg Leu Lys Ile Arg Ile Asp Ala Met  
 210 215 220  
 His Gly Val Val Gly Pro Tyr Val Lys Lys Ile Leu Cys Glu Glu Leu  
 225 230 235 240  
 Gly Ala Pro Ala Asn Ser Ala Val Asn Cys Val Pro Leu Glu Asp Phe  
 245 250 255  
 Gly Gly His His Pro Asp Pro Asn Leu Thr Tyr Ala Ala Asp Leu Val  
 260 265 270  
 Glu Thr Met Lys Ser Gly Glu His Asp Phe Gly Ala Ala Phe Asp Gly  
 275 280 285  
 Asp Gly Asp Arg Asn Met Ile Leu Gly Lys His Gly Phe Phe Val Asn  
 290 295 300  
 Pro Ser Asp Ser Val Ala Val Ile Ala Ala Asn Ile Phe Ser Ile Pro  
 305 310 315 320  
 Tyr Phe Gln Gln Thr Gly Val Arg Gly Phe Ala Arg Ser Met Pro Thr  
 325 330 335  
 Ser Gly Ala Leu Asp Arg Val Ala Ser Ala Thr Lys Ile Ala Leu Tyr  
 340 345 350  
 Glu Thr Pro Thr Gly Trp Lys Phe Phe Gly Asn Leu Met Asp Ala Ser  
 355 360 365  
 Lys Leu Ser Leu Cys Gly Glu Glu Ser Phe Gly Thr Gly Ser Asp His  
 370 375 380  
 Ile Arg Glu Lys Asp Gly Leu Trp Ala Val Leu Ala Trp Leu Ser Ile  
 385 390 395 400  
 Leu Ala Thr Arg Lys Gln Ser Val Glu Asp Ile Leu Lys Asp His Trp  
 405 410 415  
 Gln Lys Tyr Gly Arg Asn Phe Phe Thr Arg Tyr Asp Tyr Glu Glu Val  
 420 425 430  
 Glu Ala Glu Gly Ala Asn Lys Met Met Lys Asp Leu Glu Ala Leu Met

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 435   |     | 440 |     | 445 |
| Phe Asp Arg Ser Phe Val Gly Lys Gln Phe Ser Ala Asn Asp Lys Val |     |     |     |     |
| 450   |     | 455 |     | 460 |
| Tyr Thr Val Glu Lys Ala Asp Asn Phe Glu Tyr Ser Asp Pro Val Asp |     |     |     |     |
| 465   |     | 470 |     | 480 |
| Gly Ser Ile Ser Arg Asn Gln Gly Leu Arg Leu Ile Phe Thr Asp Gly |     |     |     |     |
|   | 485 |     | 490 | 495 |
| Ser Arg Ile Val Phe Arg Leu Ser Gly Thr Gly Ser Ala Gly Ala Thr |     |     |     |     |
|   | 500 |     | 505 | 510 |
| Ile Arg Leu Tyr Ile Asp Ser Tyr Glu Lys Asp Val Ala Lys Ile Asn |     |     |     |     |
|   | 515 |     | 520 | 525 |
| Gln Asp Pro Gln Val Met Leu Ala Pro Leu Ile Ser Ile Ala Leu Lys |     |     |     |     |
|   | 530 |     | 535 | 540 |
| Val Ser Gln Leu Gln Glu Arg Thr Gly Arg Thr Ala Pro Thr Val Ile |     |     |     |     |
| 545   |     | 550 |     | 560 |
| Thr   |     |     |     |     |

<210> 102  
 <211> 263  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Proteasome subunit alpha type 1  
 <222> (1)..(263)  
 <223> Accession NO: as of 29 August 2003: P25786  
 <400> 102

|   |    |    |    |
|---|----|----|----|
| Met Phe Arg Asn Gln Tyr Asp Asn Asp Val Thr Val Trp Ser Pro Gln |    |    |    |
| 1   | 5  | 10 | 15 |
| Gly Arg Ile His Gln Ile Glu Tyr Ala Met Glu Ala Val Lys Gln Gly |    |    |    |
|   | 20 | 25 | 30 |
| Ser Ala Thr Val Gly Leu Lys Ser Lys Thr His Ala Val Leu Val Ala |    |    |    |
|   | 35 | 40 | 45 |
| Leu Lys Arg Ala Gln Ser Glu Leu Ala Ala His Gln Lys Lys Ile Leu |    |    |    |
|   | 50 | 55 | 60 |
| His Val Asp Asn His Ile Gly Ile Ser Ile Ala Gly Leu Thr Ala Asp |    |    |    |
| 65  | 70 | 75 | 80 |
| Ala Arg Leu Leu Cys Asn Phe Met Arg Gln Glu Cys Leu Asp Ser Arg |    |    |    |
|   | 85 | 90 | 95 |

Phe Val Phe Asp Arg Pro Leu Pro Val Ser Arg Leu Val Ser Leu Ile  
                   100                  105                  110  
 Gly Ser Lys Thr Gln Ile Pro Thr Gln Arg Tyr Gly Arg Arg Pro Tyr  
                   115                  120                  125  
 Gly Val Gly Leu Leu Ile Ala Gly Tyr Asp Asp Met Gly Pro His Ile  
                   130                  135                  140  
 Phe Gln Thr Cys Pro Ser Ala Asn Tyr Phe Asp Cys Arg Ala Met Ser  
 145                                  150                  155                  160  
 Ile Gly Ala Arg Ser Gln Ser Ala Arg Thr Tyr Leu Glu Arg His Met  
                                   165                  170                  175  
 Ser Glu Phe Met Glu Cys Asn Leu Asn Glu Leu Val Lys His Gly Leu  
                   180                  185                  190  
 Arg Ala Leu Arg Glu Thr Leu Pro Ala Glu Gln Asp Leu Thr Thr Lys  
                   195                  200                  205  
 Asn Val Ser Ile Gly Ile Val Gly Lys Asp Leu Glu Phe Thr Ile Tyr  
                   210                  215                  220  
 Asp Asp Asp Asp Val Ser Pro Phe Leu Glu Gly Leu Glu Glu Arg Pro  
 225                                  230                  235                  240  
 Gln Arg Lys Ala Gln Pro Ala Gln Pro Ala Asp Glu Pro Ala Glu Lys  
                                   245                  250                  255  
 Ala Asp Glu Pro Met Glu His  
                   260

<210> 103  
 <211> 205  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Heat shock 27 kDa protein  
 <222> (1)..(205)  
 <223> Accession NO: as of 29 August 2003: P04792  
 <400> 103

Met Thr Glu Arg Arg Val Pro Phe Ser Leu Leu Arg Gly Pro Ser Trp  
 1                  5                  10                  15  
 Asp Pro Phe Arg Asp Trp Tyr Pro His Ser Arg Leu Phe Asp Gln Ala  
                   20                  25                  30  
 Phe Gly Leu Pro Arg Leu Pro Glu Glu Trp Ser Gln Trp Leu Gly Gly  
                   35                  40                  45  
 Ser Ser Trp Pro Gly Tyr Val Arg Pro Leu Pro Pro Ala Ala Ile Glu



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |
| Ser | Pro | Ala | Val | Ala | Ala | Pro | Ala | Tyr | Ser | Arg | Ala | Leu | Ser | Arg | Gln |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |     |     |
| Leu | Ser | Ser | Gly | Val | Ser | Glu | Ile | Arg | His | Thr | Ala | Asp | Arg | Trp | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |     |
| Val | Ser | Leu | Asp | Val | Asn | His | Phe | Ala | Pro | Asp | Glu | Leu | Thr | Val | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Thr | Lys | Asp | Gly | Val | Val | Glu | Ile | Thr | Gly | Lys | His | Glu | Glu | Arg | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Asp | Glu | His | Gly | Tyr | Ile | Ser | Arg | Cys | Phe | Thr | Arg | Lys | Tyr | Thr | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Pro | Pro | Gly | Val | Asp | Pro | Thr | Gln | Val | Ser | Ser | Ser | Leu | Ser | Pro | Glu |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     | 160 |     |     |     |
| Gly | Thr | Leu | Thr | Val | Glu | Ala | Pro | Met | Pro | Lys | Leu | Ala | Thr | Gln | Ser |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     | 175 |     |     |     |
| Asn | Glu | Ile | Thr | Ile | Pro | Val | Thr | Phe | Glu | Ser | Arg | Ala | Gln | Leu | Gly |
|     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |     |     |
| Gly | Pro | Glu | Ala | Ala | Lys | Ser | Asp | Glu | Thr | Ala | Ala | Lys |     |     |     |
|     | 195 |     |     |     |     | 200 |     |     |     | 205 |     |     |     |     |     |

<210> 104  
 <211> 868  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Programmed cell death 6 interacting protein (Hp95)  
 <222> (1)..(868)  
 <223> Accession NO: as of 29 August 2003: Q8WUM4  
 <400> 104

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Thr | Phe | Ile | Ser | Val | Gln | Leu | Lys | Lys | Thr | Ser | Glu | Val | Asp |
| 1   |     |     | 5   |     |     |     | 10  |     |     |     | 15  |     |     |     |     |
| Leu | Ala | Lys | Pro | Leu | Val | Lys | Phe | Ile | Gln | Gln | Thr | Tyr | Pro | Ser | Gly |
|     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |     |
| Gly | Glu | Glu | Gln | Ala | Gln | Tyr | Cys | Arg | Ala | Ala | Glu | Glu | Leu | Ser | Lys |
|     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Leu | Arg | Arg | Ala | Ala | Val | Gly | Arg | Pro | Leu | Asp | Lys | His | Glu | Gly | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Leu | Glu | Thr | Leu | Leu | Arg | Tyr | Tyr | Asp | Gln | Ile | Cys | Ser | Ile | Glu | Pro |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| Lys | Phe | Pro | Phe | Ser | Glu | Asn | Gln | Ile | Cys | Leu | Thr | Phe | Thr | Trp | Lys |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |  |  |  |
| Asp | Ala | Phe | Asp | Lys | Gly | Ser | Leu | Phe | Gly | Gly | Ser | Val | Lys | Leu | Ala |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |
| Leu | Ala | Ser | Leu | Gly | Tyr | Glu | Lys | Ser | Cys | Val | Leu | Phe | Asn | Cys | Ala |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Ala | Leu | Ala | Ser | Gln | Ile | Ala | Ala | Glu | Gln | Asn | Leu | Asp | Asn | Asp | Glu |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Gly | Leu | Lys | Ile | Ala | Ala | Lys | His | Tyr | Gln | Phe | Ala | Ser | Gly | Ala | Phe |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Leu | His | Ile | Lys | Glu | Thr | Val | Leu | Ser | Ala | Leu | Ser | Arg | Glu | Pro | Thr |  |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |  |
| Val | Asp | Ile | Ser | Pro | Asp | Thr | Val | Gly | Thr | Leu | Ser | Leu | Ile | Met | Leu |  |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |
| Ala | Gln | Ala | Gln | Glu | Val | Phe | Phe | Leu | Lys | Ala | Thr | Arg | Asp | Lys | Met |  |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |  |
| Lys | Asp | Ala | Ile | Ile | Ala | Lys | Leu | Ala | Asn | Gln | Ala | Ala | Asp | Tyr | Phe |  |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |  |  |  |
| Gly | Asp | Ala | Phe | Lys | Gln | Cys | Gln | Tyr | Lys | Asp | Thr | Leu | Pro | Lys | Glu |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |  |
| Val | Phe | Pro | Val | Leu | Ala | Ala | Lys | His | Cys | Ile | Met | Gln | Ala | Asn | Ala |  |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |  |
| Glu | Tyr | His | Gln | Ser | Ile | Leu | Ala | Lys | Gln | Gln | Lys | Lys | Phe | Gly | Glu |  |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |
| Glu | Ile | Ala | Arg | Leu | Gln | His | Ala | Ala | Glu | Leu | Ile | Lys | Thr | Val | Ala |  |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |  |
| Ser | Arg | Tyr | Asp | Glu | Tyr | Val | Asn | Val | Lys | Asp | Phe | Ser | Asp | Lys | Ile |  |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |  |  |  |
| Asn | Arg | Ala | Leu | Ala | Ala | Ala | Lys | Lys | Asp | Asn | Asp | Phe | Ile | Tyr | His |  |  |  |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |  |  |  |
| Asp | Arg | Val | Pro | Asp | Leu | Lys | Asp | Leu | Asp | Pro | Ile | Gly | Lys | Ala | Thr |  |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |  |
| Leu | Val | Lys | Ser | Thr | Pro | Val | Asn | Val | Pro | Ile | Ser | Gln | Lys | Phe | Thr |  |  |  |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |  |  |  |
| Asp | Leu | Phe | Glu | Lys | Met | Val | Pro | Val | Ser | Val | Gln | Gln | Ser | Leu | Ala |  |  |  |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |  |  |  |
| Ala | Tyr | Asn | Gln | Arg | Lys | Ala | Asp | Leu | Val | Asn | Arg | Ser | Ile | Ala | Gln |  |  |  |
|     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |     |  |  |  |
| Met | Arg | Glu | Ala | Thr | Thr | Leu | Ala | Asn | Gly | Val | Leu | Ala | Ser | Leu | Asn |  |  |  |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |     |  |  |  |
| Leu | Pro | Ala | Ala | Ile | Glu | Asp | Val | Ser | Gly | Asp | Thr | Val | Pro | Gln | Ser |  |  |  |



Pro Thr Pro Pro Thr Pro Ala Pro Arg Thr Met Pro Pro Thr Lys Pro  
                     740                    745                    750  
 Gln Pro Pro Ala Arg Pro Pro Pro Pro Val Leu Pro Ala Asn Arg Ala  
                     755                    760                    765  
 Pro Ser Ala Thr Ala Pro Ser Pro Val Gly Ala Gly Thr Ala Ala Pro  
                     770                    775                    780  
 Ala Pro Ser Gln Thr Pro Gly Ser Ala Pro Pro Pro Gln Ala Gln Gly  
 785                    790                    795                    800  
 Pro Pro Tyr Pro Thr Tyr Pro Gly Tyr Pro Gly Tyr Cys Gln Met Pro  
                     805                    810                    815  
 Met Pro Met Gly Tyr Asn Pro Tyr Ala Tyr Gly Gln Tyr Asn Met Pro  
                     820                    825                    830  
 Tyr Pro Pro Val Tyr His Gln Ser Pro Gly Gln Ala Pro Tyr Pro Gly  
                     835                    840                    845  
 Pro Gln Gln Pro Ser Tyr Pro Phe Pro Gln Pro Pro Gln Gln Ser Tyr  
                     850                    855                    860  
 Tyr Pro Gln Gln  
 865

<210> 105  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Similar to four and a half LIM domains 3  
 <222> (1)..(280)  
 <223> Accession NO: as of 29 August 2003: Q9BVA2  
 <400> 105

Met Ser Glu Ser Phe Asp Cys Ala Lys Cys Asn Glu Ser Leu Tyr Gly  
 1                    5                    10                    15  
 Arg Lys Tyr Ile Gln Thr Asp Ser Gly Pro Tyr Cys Val Pro Cys Tyr  
                     20                    25                    30  
 Asp Asn Thr Phe Ala Asn Thr Cys Ala Glu Cys Gln Gln Leu Ile Gly  
                     35                    40                    45  
 His Asp Ser Arg Glu Leu Phe Tyr Glu Asp Arg His Phe His Glu Gly  
                     50                    55                    60  
 Cys Phe Arg Cys Cys Arg Cys Gln Arg Ser Leu Ala Asp Glu Pro Phe  
 65                    70                    75                    80  
 Thr Cys Gln Asp Ser Glu Leu Leu Cys Asn Asp Cys Tyr Cys Ser Ala



Asp Asn Thr Phe Ala Asn Thr Cys Ala Glu Cys Gln Gln Leu Ile Gly  
 35 40 45  
 His Asp Ser Arg Glu Leu Phe Tyr Glu Asp Arg His Phe His Glu Gly  
 50 55 60  
 Cys Phe Arg Cys Cys Arg Cys Gln Arg Ser Leu Ala Asp Glu Pro Phe  
 65 70 75 80  
 Thr Arg Gln Asp Ser Glu Leu Leu Cys Asn Asp Cys Tyr Cys Ser Ala  
 85 90 95  
 Phe Ser Ser Gln Cys Ser Ala Cys Gly Glu Thr Val Met Pro Gly Ser  
 100 105 110  
 Arg Lys Leu Glu Tyr Gly Gly Gln Thr Trp His Glu His Cys Phe Leu  
 115 120 125  
 Cys Ile Gly Cys Glu Gln Pro Leu Gly Ser Arg Pro Phe Val Pro Asp  
 130 135 140  
 Lys Gly Ala His Tyr Cys Val Pro Cys Tyr Glu Asn Asn Phe Ala Pro  
 145 150 155 160  
 Arg Cys Ala Arg Cys Thr Lys Thr Leu Thr Gln Gly Gly Leu Thr Tyr  
 165 170 175  
 Arg Asp Leu Pro Trp His Pro Lys Cys Leu Val Cys Thr Gly Cys Gln  
 180 185 190  
 Thr Pro Leu Ala Gly Gln Gln Phe Thr Ser Arg Asp Glu Asp Pro Tyr  
 195 200 205  
 Cys Val Ala Cys Phe Gly Glu Leu Phe Ala Pro Lys Cys Ser Ser Cys  
 210 215 220  
 Lys Arg Pro Ile Val Gly Leu Gly Gly Gly Lys Tyr Val Ser Phe Glu  
 225 230 235 240  
 Asp Arg His Trp His His Asn Cys Phe Thr Cys Asp Arg Cys Ser Asn  
 245 250 255  
 Ser Leu Val Gly Gln Gly Phe Val Pro Asp Gly Asp Gln Val Leu Cys  
 260 265 270  
 Gln Gly Cys Ser Gln Ala Gly Pro  
 325 280

<210> 107  
 <211> 133  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Cytochrome b5  
 <222> (1)..(133)

<223> Accession NO: as of 29 August 2003: P00167

<400> 107

Ala Glu Gln Ser Asp Glu Ala Val Lys Tyr Tyr Thr Leu Glu Glu Ile  
1 5 10 15  
Gln Lys His Asn His Ser Lys Ser Thr Trp Leu Ile Leu His His Lys  
20 25 30  
Val Tyr Asp Leu Thr Lys Phe Leu Glu Glu His Pro Gly Gly Glu Glu  
35 40 45  
Val Leu Arg Glu Gln Ala Gly Gly Asp Ala Thr Glu Asn Phe Glu Asp  
50 55 60  
Val Gly His Ser Thr Asp Ala Arg Glu Met Ser Lys Thr Phe Ile Ile  
65 70 75 80  
Gly Glu Leu His Pro Asp Asp Arg Pro Lys Leu Asn Lys Pro Pro Glu  
85 90 95  
Thr Leu Ile Thr Thr Ile Asp Ser Ser Ser Ser Trp Trp Thr Asn Trp  
100 105 110  
Val Ile Pro Ala Ile Ser Ala Val Ala Val Ala Leu Met Tyr Arg Leu  
115 120 125  
Tyr Met Ala Glu Asp  
130

<210> 108

<211> 175

<212> PRT

<213> Homo sapiens

<220>

<221> Pancreatitis-associated protein 1 precursor

<222> (1)..(175)

<223> Accession NO: as of 29 August 2003: Q06141

<400> 108

Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu Ser  
1 5 10 15  
Cys Leu Met Leu Leu Ser Gln Val Gln Gly Glu Glu Pro Gln Arg Glu  
20 25 30  
Leu Pro Ser Ala Arg Ile Arg Cys Pro Lys Gly Ser Lys Ala Tyr Gly  
35 40 45  
Ser His Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser Trp Thr Asp Ala  
50 55 60

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Leu | Ala | Cys | Gln | Lys | Arg | Pro | Ser | Gly | Asn | Leu | Val | Ser | Val | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Gly | Ala | Glu | Gly | Ser | Phe | Val | Ser | Ser | Leu | Val | Lys | Ser | Ile | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asn | Ser | Tyr | Ser | Tyr | Val | Trp | Ile | Gly | Leu | His | Asp | Pro | Thr | Gln | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Glu | Pro | Asn | Gly | Glu | Gly | Trp | Glu | Trp | Ser | Ser | Ser | Asp | Val | Met |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asn | Tyr | Phe | Ala | Trp | Glu | Arg | Asn | Pro | Ser | Thr | Ile | Ser | Ser | Pro | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| His | Cys | Ala | Ser | Leu | Ser | Arg | Ser | Thr | Ala | Phe | Leu | Arg | Trp | Lys | Asp |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Tyr | Asn | Cys | Asn | Val | Arg | Leu | Pro | Tyr | Val | Cys | Lys | Phe | Thr | Asp |     |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |

<210> 109  
 <211> 1028  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Collagen alpha 1(VI) chain precursor  
 <222> (1)..(1028)  
 <223> Accession NO: as of 29 August 2003: P12109  
 <400> 109

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Ala | Ala | Arg | Ala | Leu | Leu | Pro | Leu | Leu | Leu | Gln | Ala | Cys | Trp |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Thr | Ala | Ala | Gln | Asp | Glu | Pro | Glu | Thr | Pro | Arg | Ala | Val | Ala | Phe | Gln |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Asp | Cys | Pro | Val | Asp | Leu | Phe | Phe | Val | Leu | Asp | Thr | Ser | Glu | Ser | Val |
|     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Ala | Leu | Arg | Leu | Lys | Pro | Tyr | Gly | Ala | Leu | Val | Asp | Lys | Val | Lys | Ser |
|     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |     |
| Phe | Thr | Lys | Arg | Phe | Ile | Asp | Asn | Leu | Arg | Asp | Arg | Tyr | Tyr | Arg | Cys |
| 65  |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |     |
| Asp | Arg | Asn | Leu | Val | Trp | Asn | Ala | Gly | Ala | Leu | His | Tyr | Ser | Asp | Glu |
|     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |     |
| Val | Glu | Ile | Ile | Gln | Gly | Leu | Thr | Arg | Met | Pro | Gly | Gly | Arg | Asp | Ala |
|     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |     |
| Leu | Lys | Ser | Ser | Val | Asp | Ala | Val | Lys | Tyr | Phe | Gly | Lys | Gly | Thr | Tyr |



|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Thr Asp Cys Ala Ile Lys Lys Gly Leu Glu Gln Leu Leu Val Gly Gly |     |     |
| 130   | 135 | 140 |
| Ser His Leu Lys Glu Asn Lys Tyr Leu Ile Val Val Thr Asp Gly His |     |     |
| 145   | 150 | 155 |
| Pro Leu Glu Gly Tyr Lys Glu Pro Cys Gly Gly Leu Glu Asp Ala Val |     |     |
| 165   | 170 | 175 |
| Asn Glu Ala Lys His Leu Gly Val Lys Val Phe Ser Val Ala Ile Thr |     |     |
| 180   | 185 | 190 |
| Pro Asp His Leu Glu Pro Arg Leu Ser Ile Ile Ala Thr Asp His Thr |     |     |
| 195   | 200 | 205 |
| Tyr Arg Arg Asn Phe Thr Ala Ala Asp Trp Gly Gln Ser Arg Asp Ala |     |     |
| 210   | 215 | 220 |
| Glu Glu Ala Ile Ser Gln Thr Ile Asp Thr Ile Val Asp Met Ile Lys |     |     |
| 225   | 230 | 235 |
| Asn Asn Val Glu Gln Val Cys Cys Ser Phe Glu Cys Gln Pro Ala Arg |     |     |
| 245   | 250 | 255 |
| Gly Pro Pro Gly Leu Arg Gly Asp Pro Gly Phe Glu Gly Glu Arg Gly |     |     |
| 260   | 265 | 270 |
| Lys Pro Gly Leu Pro Gly Glu Lys Gly Glu Ala Gly Asp Pro Gly Arg |     |     |
| 275   | 280 | 285 |
| Pro Gly Asp Leu Gly Pro Val Gly Tyr Gln Gly Met Lys Gly Glu Lys |     |     |
| 290   | 295 | 300 |
| Gly Ser Arg Gly Glu Lys Gly Ser Arg Gly Pro Lys Gly Tyr Lys Gly |     |     |
| 305   | 310 | 315 |
| Glu Lys Gly Lys Arg Gly Ile Asp Gly Val Asp Gly Val Lys Gly Glu |     |     |
| 325   | 330 | 335 |
| Met Gly Tyr Pro Gly Leu Pro Gly Cys Lys Gly Ser Pro Gly Phe Asp |     |     |
| 340   | 345 | 350 |
| Gly Ile Gln Gly Pro Pro Gly Pro Lys Gly Asp Pro Gly Ala Phe Gly |     |     |
| 355   | 360 | 365 |
| Leu Lys Gly Glu Lys Gly Glu Pro Gly Ala Asp Gly Glu Ala Gly Arg |     |     |
| 370   | 375 | 380 |
| Pro Gly Ala Arg Gly Pro Ser Gly Asp Glu Gly Pro Ala Gly Glu Pro |     |     |
| 385   | 390 | 395 |
| Gly Pro Pro Gly Glu Lys Gly Glu Ala Gly Asp Glu Gly Asn Pro Gly |     |     |
| 405   | 410 | 415 |
| Pro Asp Gly Ala Pro Gly Glu Arg Gly Gly Pro Gly Glu Arg Gly Pro |     |     |
| 420   | 425 | 430 |
| Arg Gly Thr Pro Gly Pro Arg Gly Pro Arg Gly Asp Pro Gly Glu Ala |     |     |
| 435   | 440 | 445 |

Gly Pro Gln Gly Asp Gln Gly Arg Glu Gly Pro Val Gly Val Pro Gly  
 450 455 460  
 Asp Pro Gly Glu Ala Gly Pro Ile Gly Pro Lys Gly Tyr Arg Gly Asp  
 465 470 475 480  
 Glu Gly Pro Pro Gly Ser Glu Gly Ala Arg Gly Ala Pro Gly Pro Ala  
 485 490 495  
 Gly Pro Pro Gly Asp Pro Gly Leu Met Gly Glu Arg Gly Glu Asp Gly  
 500 505 510  
 Pro Ala Gly Asn Gly Thr Glu Gly Phe Pro Gly Phe Pro Gly Tyr Pro  
 515 520 525  
 Gly Asn Arg Gly Ala Pro Gly Ile Asn Gly Thr Lys Gly Tyr Pro Gly  
 530 535 540  
 Leu Lys Gly Asp Glu Gly Glu Ala Gly Asp Pro Gly Asp Asp Asn Asn  
 545 550 555 560  
 Asp Ile Ala Pro Arg Gly Val Lys Gly Ala Lys Gly Tyr Arg Gly Pro  
 565 570 575  
 Glu Gly Pro Gln Gly Pro Pro Gly His Gln Gly Pro Pro Gly Pro Asp  
 580 585 590  
 Glu Cys Glu Ile Leu Asp Ile Ile Met Lys Met Cys Ser Cys Cys Glu  
 595 600 605  
 Cys Lys Cys Gly Pro Ile Asp Leu Leu Phe Val Leu Asp Ser Ser Glu  
 610 615 620  
 Ser Ile Gly Leu Gln Asn Phe Glu Ile Ala Lys Asp Phe Val Val Lys  
 625 630 635 640  
 Val Ile Asp Arg Leu Ser Arg Asp Glu Leu Val Lys Phe Glu Pro Gly  
 645 650 655  
 Gln Ser Tyr Ala Gly Val Val Gln Tyr Ser His Ser Gln Met Gln Glu  
 660 665 670  
 His Val Ser Leu Arg Ser Pro Ser Ile Arg Asn Val Gln Glu Leu Lys  
 675 680 685  
 Glu Ala Ile Lys Ser Leu Gln Trp Met Ala Gly Gly Thr Phe Thr Gly  
 690 695 700  
 Glu Ala Leu Gln Tyr Thr Arg Asp Gln Leu Leu Pro Pro Ser Pro Asn  
 705 710 715 720  
 Asn Arg Ile Ala Leu Val Ile Thr Asp Gly Arg Ser Asp Thr Gln Arg  
 725 730 735  
 Asp Thr Thr Pro Leu Asn Val Leu Cys Ser Pro Gly Ile Gln Val Val  
 740 745 750  
 Ser Val Gly Ile Lys Asp Val Phe Asp Phe Ile Pro Gly Ser Asp Gln  
 755 760 765  
 Leu Asn Val Ile Ser Cys Gln Gly Leu Ala Pro Ser Gln Gly Arg Pro

|   |      |     |      |      |
|---|------|-----|------|------|
| 770   |      | 775 |      | 780  |
| Gly Leu Ser Leu Val Lys Glu Asn Tyr Ala Glu Leu Leu Glu Asp Ala |      |     |      |      |
| 785   |      | 790 |      | 800  |
| Phe Leu Lys Asn Val Thr Ala Gln Ile Cys Ile Asp Lys Lys Cys Pro |      |     |      |      |
|   | 805  |     | 810  | 815  |
| Asp Tyr Thr Cys Pro Ile Thr Phe Ser Ser Pro Ala Asp Ile Thr Ile |      |     |      |      |
|   | 820  |     | 825  | 830  |
| Leu Leu Asp Gly Ser Ala Ser Val Gly Ser His Asn Phe Asp Thr Thr |      |     |      |      |
|   | 835  |     | 840  | 845  |
| Lys Arg Phe Ala Lys Arg Leu Ala Glu Arg Phe Leu Thr Ala Gly Arg |      |     |      |      |
|   | 850  |     | 855  | 860  |
| Thr Asp Pro Ala His Asp Val Arg Val Ala Val Val Gln Tyr Ser Gly |      |     |      |      |
|   | 865  |     | 870  | 875  |
| Thr Gly Gln Gln Arg Pro Glu Arg Ala Ser Leu Gln Phe Leu Gln Asn |      |     |      |      |
|   | 885  |     | 890  | 895  |
| Tyr Thr Ala Leu Ala Ser Ala Val Asp Ala Met Asp Phe Ile Asn Asp |      |     |      |      |
|   | 900  |     | 905  | 910  |
| Ala Thr Asp Val Asn Asp Ala Leu Gly Tyr Val Thr Arg Phe Tyr Arg |      |     |      |      |
|   | 915  |     | 920  | 925  |
| Glu Ala Ser Ser Gly Ala Ala Lys Lys Arg Leu Leu Leu Phe Ser Asp |      |     |      |      |
|   | 930  |     | 935  | 940  |
| Gly Asn Ser Gln Gly Ala Thr Pro Ala Ala Ile Glu Lys Ala Val Gln |      |     |      |      |
|   | 945  |     | 950  | 955  |
| Glu Ala Gln Arg Ala Gly Ile Glu Ile Phe Val Val Val Val Gly Arg |      |     |      |      |
|   | 965  |     | 970  | 975  |
| Gln Val Asn Glu Pro His Ile Arg Val Leu Val Thr Gly Lys Thr Ala |      |     |      |      |
|   | 980  |     | 985  | 990  |
| Glu Tyr Asp Val Pro Tyr Gly Glu Ser His Leu Phe Arg Val Pro Ser |      |     |      |      |
|   | 995  |     | 1000 | 1005 |
| Tyr Gln Ala Leu Leu Arg Gly Val Phe His Gln Thr Val Ser Arg     |      |     |      |      |
|   | 1010 |     | 1015 | 1020 |
| Lys Val Ala Leu Gly   |      |     |      |      |
| 1025  |      |     |      |      |

<210> 110  
 <211> 338  
 <212> PRT  
 <213> Homo sapiens  
 <220>  
 <221> Lumican precursor

<222> (1)..(338)

<223> Accession NO: as of 29 August 2003: P51884

<400> 110

Met Ser Leu Ser Ala Phe Thr Leu Phe Leu Ala Leu Ile Gly Gly Thr  
1 5 10 15  
Ser Gly Gln Tyr Tyr Asp Tyr Asp Phe Pro Leu Ser Ile Tyr Gly Gln  
20 25 30  
Ser Ser Pro Asn Cys Ala Pro Glu Cys Asn Cys Pro Glu Ser Tyr Pro  
35 40 45  
Ser Ala Met Tyr Cys Asp Glu Leu Lys Leu Lys Ser Val Pro Met Val  
50 55 60  
Pro Pro Gly Ile Lys Tyr Leu Tyr Leu Arg Asn Asn Gln Ile Asp His  
65 70 75 80  
Ile Asp Glu Lys Ala Phe Glu Asn Val Thr Asp Leu Gln Trp Leu Ile  
85 90 95  
Leu Asp His Asn Leu Leu Glu Asn Ser Lys Ile Lys Gly Arg Val Phe  
100 105 110  
Ser Lys Leu Lys Gln Leu Lys Lys Leu His Ile Asn His Asn Asn Leu  
115 120 125  
Thr Glu Ser Val Gly Pro Leu Pro Lys Ser Leu Glu Asp Leu Gln Leu  
130 135 140  
Thr His Asn Lys Ile Thr Lys Leu Gly Ser Phe Glu Gly Leu Val Asn  
145 150 155 160  
Leu Thr Phe Ile His Leu Gln His Asn Arg Leu Lys Glu Asp Ala Val  
165 170 175  
Ser Ala Ala Phe Lys Gly Leu Lys Ser Leu Glu Tyr Leu Asp Leu Ser  
180 185 190  
Phe Asn Gln Ile Ala Arg Leu Pro Ser Gly Leu Pro Val Ser Leu Leu  
195 200 205  
Thr Leu Tyr Leu Asp Asn Asn Lys Ile Ser Asn Ile Pro Asp Glu Tyr  
210 215 220  
Phe Lys Arg Phe Asn Ala Leu Gln Tyr Leu Arg Leu Ser His Asn Glu  
225 230 235 240  
Leu Ala Asp Ser Gly Ile Pro Gly Asn Ser Phe Asn Val Ser Ser Leu  
245 250 255  
Val Glu Leu Asp Leu Ser Tyr Asn Lys Leu Lys Asn Ile Pro Thr Val  
260 265 270  
Asn Glu Asn Leu Glu Asn Tyr Tyr Leu Glu Val Asn Gln Leu Glu Lys  
275 280 285  
Phe Asp Ile Lys Ser Phe Cys Lys Ile Leu Gly Pro Leu Ser Tyr Ser

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 290 |     | 295 |     | 300 |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Lys | Ile | Lys | His | Leu | Arg | Leu | Asp | Gly | Asn | Arg | Ile | Ser | Glu | Thr | Ser |  |  |
| 305 |     |     |     |     |     | 310 |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Leu | Pro | Pro | Asp | Met | Tyr | Glu | Cys | Leu | Arg | Val | Ala | Asn | Glu | Val | Thr |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Leu | Asn |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |